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CONTENTS

	PAGE
Editorial Notes	141
Railway Officers' Salaries	143
Main-Line Electrification in Brazil	144
Reversion from Electric to Steam Working	144
Northern Transandine Railway	145
Letters to the Editor	146
The Scrap Heap	148
Overseas Railway Affairs	149
The Railway Situation in U.S.A.—2	151
Electrification of the Norwegian State Railways	152
New Power Bogie Locomotives in France	155
Southampton Docks Ocean Terminal	157
British Transport Commission Statistics	161
Ministry of Transport Accident Report	162
Parliamentary Notes	165
Questions in Parliament	165
Notes and News	165
Railway Stock Market and Table	168

Rearmament Effects on Railways

THE Government decision to embark on a large-scale defence plan, estimated to cost £3,400 million over the next three years, or an average of £1,100 million compared with the present £780 million programme, inevitably will have its repercussions on the British railways and also on a number of industries closely associated with both home and overseas railways in the supply of engineering equipment. Bringing back to armament production the Royal Ordnance factories which since the war have been engaged on the manufacture of goods for civil use, will go only part of the way towards meeting the output needs of an expenditure of this magnitude. In the memorandum to the American Government in which the British Government outlines its proposals, it was recognised that the addition to the already high defence expenditure inevitably would slow down the post-war recovery of the United Kingdom economy. It is not intended to restore direction of labour, requisitioning of factories, or building or equipping new industrial capacity, but it is clear that considerable additional burdens will have to be borne by British industry in meeting the cost of the programme, and in the diversion of some of its productive capacity to defence needs. This will apply particularly to the engineering industries. Many of these are already fully extended, both as to productive capacity and available labour resources, in endeavouring to meet export demands. At the present juncture there is need for very close consultation and collaboration with the industries concerned with a view to minimising as much as possible the utlimate risks of any large-scale diversion of effort.

Capital Investment on British Railways

FROM the immediate viewpoint of British Railways the greatest concern must be felt as to the possibility that the new defence programme may result in a demand for a still greater curtailment in the capital investment allocation. This has already been pruned so severely that a great deal of much-needed replacement and renewal has had to be deferred. Any further reduction in the amount available for maintaining the efficiency of the undertaking inevitably would be speedily reflected in the services which could be provided. The needs of the defence programme are bound to result in additional demands and greater strain being imposed on the railways, and it is essential for the successful carrying out of the projected re-equipment of the armed forces that the transport system should be maintained at a high level of efficiency. The railways are still far from having made good the abnormal wear and tear of the war years. Since 1945 all too often their needs in materials and expenditure have been subordinated to those of other industries. That is not a process which can be pursued much further with due regard to the safety and well-being of the nation.

Taxation and Incentive

DURING recent years the burden of taxation has increased to an alarming extent, and, though there is evidence of a rising trend in productivity as well as a substantial increase in output, industry is now faced with a serious depletion of capital, which is a handicap to further industrial expansion and constitutes a threat to the maintenance of existing levels of output. The harmful effects of high taxation of profits on the flow of savings into industry are now being felt, and what industry has needed for some time—particularly the exporting industries—is incentive to take business risks. For this reason, the news that a Royal Commission is to inquire into the whole of the present system of taxation of profits and income is welcome, though in view of the recent deterioration in the international situation, any benefits that may accrue are unlikely to be felt for some time. The Commission will have particular reference to the taxation of business profits and the taxation of salaries and wages—keeping in mind the need for maintaining the revenue—and it has its origin in undertakings given by the Chancellor of the Exchequer in his Budget speech in April last year when he said that "there are a number of issues, arising out of the present structure of taxation, including the incidence of tax and its effects on risk bearing, which require examination."

Centenary of the East Coast Route

THE position of Euston as "the Gateway to the North" remained unchanged until 100 years ago, when the Great Northern Railway was opened from Werrington Junction, near Peterborough, to a temporary London terminus at Maiden Lane, Kings Cross. This 78¾-mile opening was the longest railway opening of the year, and provided for the first time an East Coast route to Scotland independent of the Euston group of railways. The first public train was a Parliamentary one, which left Maiden Lane at 6 a.m. on Wednesday, August 7, 1850. Until then, the route between London and York had been from Euston *via* Rugby, Derby, and Normanton. The new route was still rather circuitous, as it passed through Boston and Lincoln, but in August, 1852, it was improved considerably by the opening of the direct main line between Werrington Junction and Retford *via* Grantham, avoiding the Lincolnshire detour. Further

north, the present direct line between Doncaster and York, *via* Selby, did not replace the original route through Knottingley until 1871. When the Team Valley line through Durham was brought into use in 1872, East Coast expresses adopted their present route, although reversal in Newcastle was necessary until the King Edward Bridge across the Tyne was completed in 1906.

British Transport Commission Statistics

THE chief interest in the results for the sixth statistical period of the year of British Transport Commission activities lies in the effect on rail traffic of the 16⅔ per cent. rise in freight rates on May 15. The total traffic receipts of the Commission for the four weeks to June 18, of which details appear elsewhere in this issue, exceeded those of the corresponding period of 1949 by 10 per cent. British Railways receipts increased by only 5 per cent. Of these, coal traffic receipts rose by 16 per cent., mineral by 11 per cent., and general merchandise and livestock by 9 per cent., against last year's figures; the corresponding tonnages originating rose very slightly (by 0·2 per cent.) for coal traffic, and fell by 2·4 per cent. for minerals and by 6 per cent. for merchandise and livestock. The May rate increases therefore stemmed a serious decline in rail receipts—at a time when industrial production in this country was increasing. Passenger takings fell by 5 per cent. compared with 1949; whether this was caused by the de-rationing of petrol, shortly after the commencement of the period under review, it is hard to say; all the London Transport undertakings show similar, but smaller, declines. British Railways efficiency statistics, however, show a sustained general improvement.

Railway Electrification in Norway

IN view of the extensive electrification of railways in Sweden, which is sparsely populated, devoid of coal, and endowed with natural water-power resources, it is sometimes asked why Norway, where conditions are similar, has not electrified her railways to the same extent. In fact, no less than 40 per cent. of the traffic of the Norwegian State Railways is electrically hauled today (against 85 per cent. of the Swedish State system) and 20 per cent. of the mileage. Furthermore, as is related in an article elsewhere in this issue, Norway was a pioneer, from the 1890's onwards, in railway electrification, to which there have been, and still are, grave impediments. The distribution of population and industry, with even vaster areas of undeveloped country than in Sweden, is not conducive to the rail traffic densities which justify electrification. The country as a whole is poor, and hitherto without extensive heavy industry, so that much plant has been obtained abroad. The depression of the 1930's, and then the war, further impeded progress. Now, however, with the increased difficulty of obtaining coal from abroad, a bold electrification project is being executed. Its completion, due in 1955, will involve electrical haulage of 60 per cent. of all traffic; and thereafter further electrification of secondary lines is planned.

Mission to Study U.S.A. Railway Methods

A GROUP of 87 railway experts from twelve Western European countries, the largest technical assistance team to visit the U.S.A. under the Marshall Plan so far, is now completing arrangements for a six-week study tour of the American railways. These experts, who start their tour on September 10 in New York, will study the latest techniques which might be applied in Europe to add to the efficiency of a transportation system which has now been restored almost to normal from the wreckage of the recent war. The project is sponsored by O.E.E.C. and E.C.A., and by the Governments of the United Kingdom, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Sweden, and Turkey. The team will divide into seven groups according to specialised interests. The groups will follow separate itineraries in the U.S.A., concentrating their attention on railway mechanics, operations, communications and signals, permanent railway structures, statistics, traffic, and electrification. They will have an opportunity of studying new methods and new equipment, and on their return to Europe on October 21, will report on their findings to O.E.E.C. and their individual countries. It is of interest to note that Marshall Plan countries during the past two years have received about $40,000,000 in direct E.C.A. aid for the purchase of railway equipment of all kinds. The names of the seven British representatives are given in our personal columns.

Southampton Ocean Terminal

SINCE the new ocean terminal at Southampton was opened by the Prime Minister at the end of last month, the handling of passengers and baggage at these docks has been carried out in record time. When the liner *Queen Mary* docked on August 3 with about 1,000 passengers from New York, the first boat train was ready to leave 1½ hours before its scheduled time and clearance through the customs was the fastest on record. For many years this port has maintained its position as the premier passenger port in Britain and there is already every indication that the enviable reputation which Southampton enjoys will be still further enhanced in the years to come. Last week we described the new terminal and its modern equipment in considerable detail, and elsewhere in this issue we reproduce a further selection of photographs showing some interior views of the building. Beauty has in no way been sacrificed to utility, and in its design and layout the whole—exterior as well as interior—shows a happy combination of engineering and architectural skill, not an easy task in the case of a building more than 1,200 ft. long by only 111 ft. wide.

Starting Against the Signal

THE accident at Littlehampton on November 30, 1949, was another case where a motorman allows his attention to become distracted and, on getting "right away," starts without looking at the fixed signal. In this instance his failure coincided with one on the part of the signalman, who had intended to set up the route for the train to leave, and believed he had in fact signalled it out, but in reality had forgotten to reverse a crossover connection, so that when the train started irregularly it was heading directly for the path of an incoming one. As Brigadier C. A. Langley remarks in his report, summarised in this issue, it is difficult to arrange the layout and interlocking at such a station so as to give all the protection theoretically desirable against these probabilities, but more might perhaps be done in some cases by using the non-reciprocal locking proposed by Mr. S. T. Dutton, formerly Signal Engineer of the East Indian Railway, which obliges a signalman to set up such protection as can be given at the moment he signals a movement, but does not unduly hinder him later by rigid counter-locking.

Flexible Traction Drives

AT the present time the Brown-Boveri gas-turbine locomotive on the Western Region is the one example in this country of a main-line locomotive with flexible drive from electric traction motors to axles, and its only predecessor here has been the high-speed electric locomotive built by the former North Eastern Railway, when conversion of its main line between York and Newcastle was contemplated. The prevalence of such systems on the Continent can be traced back to early a.c. practice, when the size of the motors made it necessary for them to be carried on the main frames. This rendered a flexible transmission unavoidable when side rods gave place to individual axle drive. Smaller motors, suitable for bogie mounting, have been developed since then, but the relatively complicated brushgear and slender armature windings of a.c. machines are factors which probably have encouraged the retention of flexible drives in bogies as a means of pro-

tecting the motors from mechanical shocks. The use of such transmissions in d.c. locomotives abroad can be ascribed partly to the same background of Continental development and partly to the intention of reducing wear on the track at high speeds. Axle-hung motors are found satisfactory in high-speed diesel-electric locomotives in the United States because of the heavier permanent way, but there are advocates in this country of flexible transmissions both for locomotives and motor coaches if speeds over 75 m.p.h. are required

Permanent Way Reclamation

INCREASING attention is being paid in the United States to the possibilities of permanent way reclamation and some example of modern methods will be of interest. Flame hardening is now applied to cast-steel crossings and it has been proved that the best and most reliable results are obtained with a Brinell hardness up to between 340 and 350 on the running surface. One railway has been repairing the points of worn or damaged switch rails by applying new tips. For this purpose the damaged point is cut down to the web and the new tip bolted on. Tips of manganese alloy have been used, but because it is impossible to bore this type of steel by any ordinary methods, which means that extremely accurate coring is necessary in casting the new tips, there is a preference for alloy steel tips with a Brinell hardness of between 330 and 410, which give good wear especially in the higher range. As regards permanent way maintenance, one railway is cutting its costs on the tamping bars used with pneumatic or petrol-driven tampers by making the bars in two pieces, with a standard shank to which successive blades can be welded as the latter wear or break; this costs no more than one-third of the price of new tamping bars. Even the expenditure on picks used by surfacemen can be reduced considerably by welding new tips to worn or broken picks, at about one-half the cost of new picks.

Railway Officers' Salaries

SINCE the war the claims of the railway trade unions for improvements in the rates of pay and conditions of service of their members have been so constant and insistent that few months have passed without a demand being either in preparation or under negotiation. Practically nothing, however, has been heard of the salary position of railwaymen who do not come within the conciliation grades, but who, equally with the trade union employees, have had to meet the increase in the cost of living and a great many of whom have had to face a deterioration in their reasonable prospects of financial advancement because of the advent of nationalisation.

Since the beginning of 1948 the position of General Manager has been abolished on British Railways. Chief Mechanical Engineers, Chief Engineers, and so forth are a dying race—as holders of those positions and titles leave the service they are not replaced by officers of equal status or remuneration. In effect, the functional organisation of the Railway Executive vests the office of, for example, the former Chief Mechanical Engineers of all the railway regions in the person of the Member of the Executive responsible for mechanical engineering. In the Regions the various departments previously headed by the C.M.E. are divided among two or three officers, each with limited responsibilities and at very much lower salaries than the former C.M.E. As similar arrangements apply in the other principal departments it is clear that the effect on promotion and the ultimate objectives of numbers of the staff is considerable.

Without reopening the discussion on the similarity or dissimilarity of the position of the Chief Regional Officers to that of the former General Managers it may at least be assumed that the office is that of the top ranking officer in the Region, and that, therefore, when anomalies resulting from the carry over of personnel from the former railway companies are eliminated by retirement or death, the Chief Regional Officer will carry the top rate of salary. The rates of pay, however, which have been accorded recent appointments to these positions are well below those which a Deputy or Assistant General Manager received. In effect, therefore, a very low ceiling appears to have been established. In the case of Chief Officers whose rates of pay were fixed by the former companies there is not only no prospect of any financial improvement while they occupy their present positions, or any others in the Regions, but, because of the general level of around £5,000 a year which obtains for members of the Railway Executive or the British Transport Commission, promotion to either of those bodies would bring no financial gain, although it might involve added labour and responsibility. There is, therefore, in trade union parlance, a high degree of "stagnation" among railway officers at the present time, and throughout the officer classes the prospects of both pay and promotion have been dimmed.

There is another—and an extremely important—aspect of railway officers' salaries. In a recent article in *The Sunday Times*, Mr. Norman Crump, the City Editor, gave some interesting pointers to the changes which have occurred in money values since the beginning of the war, and the effect of these, coupled with taxation, on real incomes. He pointed out that to decide whether a man is worse off or better off now than he was before the war, three factors have to be taken into account. The first is the change in his personal income. The second is the decline in the purchasing power of the pound, which reflects in full the burden of indirect taxation and also the relief afforded by subsidies. The third is the increase in the taxation of incomes.

Weekly wages are now on the average about 90 per cent. above the pre-war level, and salaries are up by probably 50 or 60 per cent., but the better paid a post was before the war the less has been the subsequent increase in the salary attaching to it. The decline in the purchasing power of the pound affects different sections of the community in varying degrees, but recent Government statements suggest that, compared with 1939, the buying power of the pound equalled only 13s. 2d. at the end of the war, and has since fallen to 10s. 6d.

If a married man with two children is taken as a fair example, it is found that if in 1939 he earned £3 a week and is doing the same job now, he may be getting £5 15s. a week. In neither case is income tax payable, and, allowing for the increase in the cost of living, his wages will probably buy as much today as they did in 1939. If, however, he has advanced to £7 10s., he is better off, because even at this figure his income tax is negligible.

The position of the salaried classes is very different. If a man earning £500 a year in 1939 now receives £900 a year, his income tax will have risen from £8 to £133, so that his net income is up only from £492 to £767. As today £767 will buy no more than £403 would have done in 1939, his effective purchasing power had fallen from £492 to £403, so that he is 18 per cent. worse off. If in 1939 he was paid £900 a year and now gets £1,600, his tax will have gone up from £90 to £385. After allowing for the fall in the purchasing power of the pound, his present net income of £1,215 will buy 21 per cent. less than his 1939 net income of £810 would have bought.

On the basis of a £1,500 a year 1939 salary now raised to £3,000, taxes will have risen from £221 to £1,091, giving an advance in net income only from £1,279 to £1,909. Allowing for the shrunken purchasing power of the pound he is 22 per cent. worse off. On a similar basis a man whose salary has risen from £2,000 in 1939 to £3,000 today is 39 per cent. worse off.

The worst case of all is that of a man who before the war earned £5,000 a year and still receives the same amount. In 1939 he paid £1,524 in income tax, where as now he pays £2,445. His net income has fallen from £3,476 to £2,555, and the latter sum has a purchasing power of only £1,342. Therefore, for all practical purposes his income has dwindled to less than two-fifths of what it was before the war.

Broadly, these calculations show that a man with £4,500 a year now is no better off than one with £1,500 a year before the war. The great majority of railway officers

will have no difficulty in deciding whether their true financial position has improved since 1939—but the foregoing calculations may help them to ascertain by just how much it has not.

Main-Line Electrification in Brazil

A MAJOR British overseas electrification undertaking came into operation on July 20 with the official inauguration of electric traction on the 39·76 miles of the Estrada de Ferro Santos a Jundiai between Moocha and Jundiahy. This project was surveyed and planned by The English Electric Co. Ltd. in collaboration with the former British-owned San Paulo Railway, the contract for the work being signed in London in September, 1946, between the railway company and the English Electric Export & Trading Co. Ltd. Subsequently, the railway was acquired by the Brazilian Government, and is now known as the Estrada de Ferro Santos a Jundiai.

This 5 ft. 3 in. gauge main line connects at Jundiahy with the Paulista Railway to Campinas. Both systems are electrified at 3,000 V. d.c., and the new electric locomotives on the San Paulo line are designed for hauling through passenger trains of 300 to 700 tons, as well as for the goods trains which form 65 per cent. of the traffic on their own system. Power for the new electrification is taken at 88,000 V. from the hydro-electric station of the San Paulo Light & Power Company and is transformed down to 33,000 V. in the main sub-station at Tiete. Double-circuit transmission lines distribute the supply at the same voltage to the other two sub-stations at Cayeiras and Campo Limpo which are approximately 12½ miles apart.

The sub-stations are equipped with "English Electric" pumpless steel-bulb rectifiers and have an installed capacity of 4,000 kW. each. The transmission lines and the overhead contact lines serving the double track have been supplied and erected by British Insulated Callenders Cables as sub-contractors to the work. In addition to the main line, electrification has been carried out in the extensive freight yards at Moocha, the southern terminus of the electrified section and the next station southward from Sao Paulo.

The 15 Co-Co 3,000-h.p. electric lomomotives being supplied by The English Electric Co. Ltd. for this project are the most powerful yet completed in Great Britain. Their mechanical parts are being built by the Vulcan Foundry Limited. An illustrated description appeared in our November 4, 1949, issue, but it may be recalled that provision is made both for regenerative braking and multiple-unit operation. Three three-coach electric train sets also are being supplied to the railway by the same firm for suburban services.

The San Paulo electrification is the second large project at 3,000 V. d.c. in Brazil for which Great Britain has built the fixed equipment and motive-power units. Its predecessor was the Rio de Janeiro suburban lines of the Central Railway.

The contract for the electrification of these lines was awarded to the Metropolitan-Vickers Electrical Co. Ltd. in 1935, and by the outbreak of war 28½ miles had been converted, leaving 16 miles still to be carried out. In 1944 the Brazilian Government freed the company from its obligation to complete the work, which was held up by war conditions, and the remainder of the electrification was entrusted to an American and a Brazilian firm. An outline of the scheme and the progress then achieved appeared in our issue of December 8, 1944.

The Metropolitan-Cammell Carriage & Wagon Co. Ltd. has resumed since the war the supply of electric rolling stock for the Central Railway suburban services and the total delivered, including that supplied before the war, is 90 three-car units. The electrical equipment for the coaches was manufactured by the Metropolitan-Vickers Electrical Co. Ltd.

Important technical advances have been made by British engineers in the design and construction of high voltage d.c. traction motors, enabling the advantages of 3,000 V. distribution to be allied with maximum efficiency of motive power. Their most extensive application so far has been on the South African Railways, to which 200 British-built electric locomotives have been supplied since 1922, while 40 more are under construction. These have been of progressively increasing horsepower, and the fact that the machines now being built for South Africa have been quoted as having a slightly higher rating than the San Paulo locomotives, although subject to the limitations of the 3 ft. 6 in. gauge, demonstrates the ability of British designers to meet current traffic demands in the sometimes stringent circumstances imposed by railway conditions overseas.

Reversion from Electric to Steam Working

IN the short space of 15 years the diesel-electric locomotive has become the leading form of motive power on the U.S.A. railways. Its development has brought main-line electrification to a full stop and in more than one instance electric working, which had been adopted to meet abnormal operating conditions, has been superseded by diesel-electric power. Further changes of that kind would not be surprising, but it is remarkable that in June the Norfolk & Western Railway abandoned electric movement of freight on some 70 miles of line near Bluefield, West Virginia, and in future will use only coal-burning steam locomotives for all purposes.

The Norfolk & Western is a coal road in the Pocahontas Region, operating 2,130 route-miles between Cincinnati and the Atlantic seaboard. Last year its average wagon load was 47 tons, its train load was 2,045 tons, and its freight train speed 16·6 miles per hour. Its traffic density was 7,140,000 net ton-miles per route mile, a high figure, but 28 per cent. below the 1948 density when the coal mining industry worked full time. About 1915 the Norfolk & Western installed electric locomotives on a difficult section of line including the single-track Elkhorn Tunnel, within which steam locomotives generated heat and gases to the discomfort of train crews. Now the curves and gradients on this section have been reduced by relocating certain lines and a new double-track Elkhorn Tunnel, of generous dimensions, has been constructed. This is thought to be the largest tunnel of its type in the world. Being 7,052 ft. long, 32 ft. high and 31 ft. wide, it affords ample space for the dissipation of fumes from the modern coal-burning steam locomotives, in which the Norfolk & Western puts its trust.

The first extensive trial of electric traction for freight train working on a British railway began about the same time as the Norfolk & Western's experiment. In the years 1913 to 1916 the North Eastern Railway converted 18½ miles of line (50 miles of single track) between Shildon and Newport, Middlesbrough. That branch line carried a heavy coal and coke traffic from the West Durham collieries to Teesside works and electric operation proceeded uneventfully until the output of the coalfield fell off during the trade slump in the 1930s. It was then found practicable to work much of the traffic direct by steam locomotives from the collieries to destination, instead of staging the wagons to Shildon Yard. The cost of maintaining and renewing the overhead electrical equipment could no longer be justified and the London & North Eastern Railway resumed steam working throughout.

It is pertinent to observe that the success of the Manchester and Sheffield electrification, begun by the L.N.E.R. before the war and now being completed by the Railway Executive, will depend largely on the volume of coal passing by rail in future. The Weir Committee reported in 1931 that the scheme might give a 15 per cent. return on cost. After the Railways Agreement Act, 1935, was passed, the L.N.E.R. board included the scheme in the list of works which it was prepared to undertake to provide employment for large numbers of men. The Company counted on a yield of 10 per cent., but did not contemplate the heavy expenditure on a new Woodhead Tunnel, which the Railway Executive is constructing. The board also hoped to reduce the outlay on new electric locomotives by reconditioning the machines withdrawn from the Shildon and Newport branch, but, as noted in our July 21 issue, that proposal has been dropped. Altogether the original

plans have been modified so extensively that pre-war estimates of profit from electric traction will have to be revised.

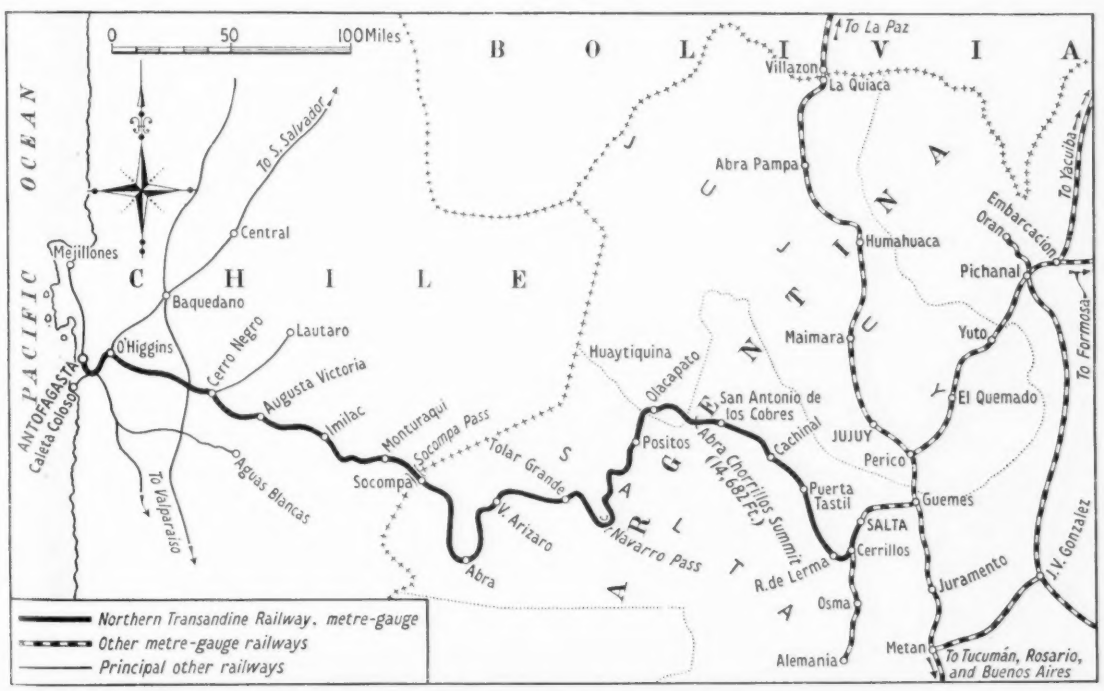
A further point is that the pre-war reports on the scheme assumed a continuing flow of coal from east to west across the Pennines. They did not foresee the possibility that developments of the electric grid might curtail rail transport of coal considerably within the next 10 or 20 years. There is now a distinct prospect that soon electric power stations may be erected close to the collieries and in that event much of the coal forwarded by rail today will be used to produce current for feeding a strengthened grid system. Altogether the first venture in main-line electrification in this country has become more speculative than it once appeared to be. It would be reassuring to have a detailed statement from the Railway Executive on the progress and financial position of the scheme, together with an up-to-date estimate of the results which are expected from the introduction of electric traction.

Northern Transandine Railway

THE opening of the Northern Transandine Railway early in 1948, which afforded a direct connection between Northern Argentina and the coast of Chile, took place in an atmosphere of optimism and its prospects were bright. The line was conceived in 1905, but construction did not begin until the early 1920's, taking some 25 years to achieve. It is metre gauge, and some 500 miles long, with, as its name implies, many heavy engineering works; the western portion is worked by the Antofagasta (Chili) & Bolivia Railway on account of the Chilean Government, whilst east of the Socompa Pass, the frontier, and the watershed of the Atlantic and Pacific, the Argentine Government operates the remainder. It may be said to be a product of the pre-motor age, for, when a metre-gauge railway was finally decided on 30 years ago, road transport was still in its infancy. Yet even two years ago, as recorded in *The Railway Gazette* of June 4, 1948, the prospects of traffic seemed favourable. The railway was to convey, westwards, the timber, agricultural produce, and cattle of the Argentine provinces of Jujuy and Salta to the arid coastal region around Antofagasta, and, eastwards, the nitrates and minerals of Chile, and fish from the Pacific. In addition, there were prospects of traffic, to be shipped *via* Antofagasta, between Argentina and the U.S.A. and the Far East

These prospects have not been realised. Commenting on the meagreness of traffics over the line during the past two years *The Review of the River Plate* in a recent issue considers that it may perhaps be the result simply of the stagnation of trade between Argentina and Chile which has set in despite a trade agreement in 1946. There may be, it adds, deeper and more permanent reasons. Even if the Chilean coastal belt and Northern Argentina are economically complementary, this may not result in traffic sufficient to earn a return on some £10,000,000 spent on a railway over the Andes. The article speculates how far the line, even at the time of its inception, when railway construction was less costly and operation generally more profitable (or less unprofitable) than now, was due partly to a wish for a wholly South American railway; for the Transandine Railway proper, on the direct route between Buenos Ayres and the Pacific, was foreign owned. In addition, the producers of Jujuy and Salta may in their desire for an outlet to the west have insisted on a measure which was even at the time regarded by some as financially unsound—though there is little evidence that the line could not rightly be considered, at that time, as a sound measure of economic development in the broadest sense. It is certainly true that the number of railways built in the world then and since, through such difficult country and to so restricted a loading gauge, is very few, at least for commercial rather than strategic reasons.

Furthermore, the Argentine demand for nitrates is restricted by the chemistry of the soil, and potential steel traffic from Chile has been nullified by the development of a steel industry in Northern Argentina. The arid Chilean coastal region also can now import timber and agricultural produce more cheaply by sea. This, as *The Review of the River Plate* points out, leaves cattle and tourist traffic; as to the latter, though the railway traverses magnificent Andean scenery, the future of tourist traffic in this region seems to lie in air travel. Even without intensive road competition, therefore, the Northern Transandine Railway seems to be in economic difficulties, which probably could not have been foreseen.



Map of Northern Transandine Railway and connections

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Station Announcers

July 29

SIR,—A passenger guard recounted the following experience, which occurred on an occasion when he worked a Sunday excursion from Bury St. Edmunds to Southend Victoria.

Immediately on the train's arrival, the male announcer, in well-modulated voice, welcomed the passengers, and recommended some principal places of interest. He concluded with the return departure time of the excursion. Then he gave the train crew instructions as to the disposal of engine and vehicles, with the time the men were required back on duty. In the guard's own words: "I never had to speak to a soul about the train all the time."

After the empty coaches had drawn into the station in the evening, the announcer repeatedly broadcast its presence, occasionally expressing the hope that passengers had enjoyed their visit and extending a cordial invitation to come again. Finally, the late-comers outside the station and those lingering in the refreshment rooms were warned a minute or two before their time was up. This process was repeated, concurrently, for every one of several excursions.

Thus, to British Railways' credit, the public is served at Southend by a man obviously well-trained and keen on his job. His happy spirit pervades the entire station and visiting staff, and the passengers, too, are happy.

If this practice were common, instead of exceptional, whatever the sex of the announcer, my namesake would not advocate the withdrawal of a useful service, as he did in your July 7 issue.

Yours faithfully,
PETER COLLINS,
Stationmaster

Barnham, Suffolk

Double-Deck Coaches Abroad

July 18

SIR,—I enclose a photograph I took of three old double-deckers in Spain last summer.

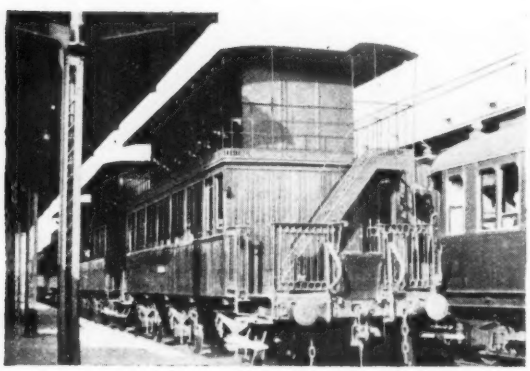
The carriages were in Valencia Station (Norte) when I arrived there from Barcelona in the morning; about 5.30 in the evening I left Valencia for Alicante, and passed the double-deckers at Játiba, where I took this photograph, the coaches in the background being part of the train on which I was travelling.

It appears that the coaches work on local service between Valencia and Játiba. They are painted in the varnished teak livery which is usual for all the older types of vehicle on the Renfe lines.

In a recent issue you published a photograph of a Spanish National Railways locomotive built, if I remember rightly, in 1858. I saw at Murcia two engines of generally similar appearance, which bore plates stating that they were built by the Leeds Railway Foundry in 1857. Unfortunately I was not able to photograph either of them.

Yours faithfully,
NORMAN N. FORBES.

39, Oakdale Road, Liverpool 22



Train consisting of double-deck coaches in Játiba Station, Spanish National Railways

Photo] [N. N. Forbes

Last "Loch" Class Locomotive Withdrawn

July 28

SIR,—I should like to express my appreciation of Mr. Montague Smith's comment under the above heading in your issue of June 23.

Apart from provision being made to adapt the Caledonian type boiler to suit this class of engine, primarily to reduce the number of boiler types maintained on the Northern Division of the L.M.S.R. at the time, no definite information is now available of the actual number dealt with, as fitting took place only when boiler changes were required.

The statement that the piston valves originally fitted to these engines were of the Smith type, later replaced by Richardson balanced valves, is in accordance with official records.

Yours faithfully,
H. M. HUNTER,
Public Relations & Publicity Officer

British Railways, Scottish Region,
179, Howard Street, Glasgow, C.1

British Railways Finance

July 30

SIR,—Peter Collins, in his letter in your issue of July 21, voices the opinion of many railwaymen when he suggests that the cost of railway track maintenance should be borne by the Exchequer to reduce the odds against rail transport. May I go a step further and suggest that the maintenance of stations and station approaches be made the responsibility of local authorities

The railways should be treated with the same importance as our trunk roads, water and fuel supplies, postal and telephone services and other organisations which provide a necessary service to the community. They are not, as often suggested by their critics, an antiquated liability. They are a tangible asset, the main arteries of the country, and they must be made sound and efficient, both operationally and financially, by their owners—the British public.

Release from financial responsibility for track maintenance would render the Railway Executive liable to taxation on trains, vehicles or mileage to bring them in line with road competitors, and the transfer of station buildings to local authorities would make the railways beholden to provide a service suitable to the requirements of the town or village.

The local station taken over by the urban district council, for instance, would be illuminated by gas or electricity from the local supply, the approach road would be resurfaced at the same time as the roads in the district, the buildings given a coat of paint at the same time as other public buildings, and the same colour. What matter if the Regional colours go by the board—the average traveller does not want to know what Region he is in! Floral decoration would be carried out by the Parks Committee. The cost to the community—negligible. The same procedure carried out in a town or city might mean a farthing rate, but after all the railway companies have for years been among the highest ratepayers, with little or no return.

The advantages of such a system would be numerous

The local authorities would be encouraged to take a greater interest in rail transport, not as at present raising their voice only in protest at the threatened closing of a station. The local bus services, with often only slight diversion, could be given a calling place on the station approach, and excursion trains, after being given wider publicity, could be met by municipal transport.

Yours faithfully,

J. L. BROADHURST

14, Bordon Road, Cheadle Heath

Coach Design

July 23

SIR,—I am extremely glad to see the letter of Mr. E. R. B. Roberts in the July 21 issue because he has brought to light some points of coach design used in other countries which we have failed to adopt here. I believe that most coaches being built by British Railways today are of the same basic design of sixty years ago or more.

Presumably we use compartment stock because we have the notion that we obtain greater privacy than in open stock. Do we? I think not, for we have to sit facing other people, our knees almost touching theirs, and trying to find room for our legs between theirs when we want to stretch a little—all embarrassing at times. If we want to go into the corridor we have to disturb several people to get there.

The Americans do it better in their openstock cars—the seats all face the same way and there are only two of you together—and yet the seats are reversible so that, should there be three or four persons in your party, you can have your own private block, as it were, among the rest of the passengers. In the modern day coaches it is usual for the seat backs to be adjustable and there is a foot rest, so you can be far more comfortable than in British-type compartment stock—and even more so still than in British open stock. Why will the British persist in constructing their open stock with straight-backed uncomfortable seats—and facing each other, too? It seems as if such stock were built on the compartment principle, but the partitions have been removed.

To return to the question of privacy—if you want to be really private in America, you pay a comparatively small supplement and have the use of a roomette or drawing room, greater privacy than that obtainable on British Railways unless you are prepared to reserve all the seats in a compartment—expensive should there be only two of you.

As the Railway Executive must know about these things, why does it not build some samples incorporating modern ideas and run them all over the country so that people can see what they have been missing?

Yours faithfully,

G. RICHARD PARKES

Montcroft, School Lane, Formby

Station Re-naming

July 26

SIR,—The Railway Executive system of renaming certain stations since the inter-regional transfer took place shows some changes which seem unnecessary. Why, for instance, create titles like Radstock East and Radstock West, or Highbridge East and Highbridge West, when they can be classed as the same station and neither is east or west as far as the towns are concerned? Another curious renaming is to be found on the former L.M.S.R. Swansea Vale line in the addition of the suffix "South" to Clydach-on-Tawe when there is no such passenger station as Clydach-on-Tawe North; presumably this change has been made to distinguish it from some obscure goods depot on the former G.W.R. Clydach branch.

It would have been far better, I consider, to have spent more time in sorting out some long out-of-date station titles. For instance, Llantrisant station on the South Wales main line is situated in the village of Pontyclun, which has sprung up since the railway came and is 2½ miles from Llantrisant. A more suitable title would be Pontyclun (for Llantrisant). Llantrisant itself is better served by Cross Inn station on the Llantrisant-Treforest branch. Southerndown Road is another misleading title. It has ceased to be the alighting point for Southerndown since buses commenced running between Bridgend and Southerndown, and it would be better to name it after a village in the vicinity.

Yours truly,

J. F. BURRELL

80, Longmead Avenue, Bristol, 7

Publications Received

New Light on the Locomotive Exchanges. — A Detailed Analysis of the Official Report of the Railway Executive. By Cecil J. Allen, London: Ian Allan, Limited, 282, Vauxhall Bridge Road, S.W.1. 8½ in. × 5½ in. 40 pp. Illustrated. Price (paper covers) 3s. 6d. (cloth) 5s. The purpose of this addition to Mr. Cecil J. Allen's book "The Locomotive Exchanges: 1870-1948," to which reference was made in our issues of July 1, 1949, and August 5, 1949, is to relate the salient facts revealed in the officially published figures of the 1948 locomotive exchanges to the details of the locomotive running that have already been given in the first edition. Although the official test records have now been made public, it is impossible to gather from them such facts as the speeds of the engines over the various stages of their journeys, what times were made from point to point, the cost of out-of-course checks, or the log in which engine crews on some runs did their utmost to observe the point-to-point times laid down while others were content to make up for lost time by fast running on downhill stretches. Mr. Allen sets out to remedy these and other omissions, and students of locomotive performance will be glad to have this book in their possession when attempting an assessment of the true significance of the 1948 trials.

Amtliches Kursbuch: Westliches Deutschland (Passenger Timetables, German Federal Railways, Western Germany). Deutsche Bundesbahn, Generalbetriebsleitung West, Bielefeld. —The speedy rehabilitation of passenger services since the war in the three Western Zones of Germany is shown in the current summer timetable. This is as accurate, and as skilfully planned in relation to complex railway layouts, as before the war. It is also nearly as comprehensive. As between Western Germany and the Russian Zone, however, only the inter-zonal services and connections are shown, as between Berlin and Hamburg, Berlin and Munich *via* Leipzig, and the restored prolongation of the "Nord Express" east of Berlin to and from Warsaw; no detailed timings are given of services within the Russian Zone. Whilst connections are shown with many parts of Europe (except U.S.S.R., but including the Balkans), no attempt is made to print abstracts of the main-line services in many countries which appeared before the war. This is the centenary edition of the *Kursbuch*; a leaflet in English and German presented with each copy describes the development of passenger timetables in Germany since the opening of the first public railway in 1835 and the publication in 1850 of the first official timetable covering the railways of all the German States and of the neighbouring countries, from which evolved the bulky timetable of today.

Locomotive & Rolling Stock Equipment.—This illustrated brochure deals with the products of the A.B.C. Coupler & Engineering Co. Ltd., Wolverhampton, and its associated company, Wota Limited. Among the products described are the M.C.A. and A.B.C. couplers, both of which are illustrated as component parts and alphabetically itemised. Drawings are also included as well as technical information. Similar information is also contained in the brochure relating to A.C.S. automatic mine car couplers. Among the Wota products similarly described and illustrated are Wota side buffers, Lockyer and Joco regulator valves, and N.C. bypass valves.

THE SCRAP HEAP

Travel Costs in Europe

Now that the holiday month has started I have been looking at the daily accounts which I have kept these last seven months in eleven countries.

Taking locomotion first, rail travel turns out to be cheapest in Holland, Austria, and Italy; in Switzerland, just a shade dearer than in France, but cheaper than Britain, Belgium, and Germany.—*From an article by Kees van Hoek in "The Irish Times."*

Long Life at Clapham Junction

Among the youthful crowd of train spotters at Clapham Junction, one will always find Blackie, No. 13 platform buffet cat. How he keeps all his nine lives intact at the busiest railway junction is a mystery.

At least 2,500 trains a day go through here, and there are 19 live rails to cross, but Blackie manages to keep platforms 1 to 17 free from mice without so much as the loss of a whisker.—*From the "News Chronicle."*

W.D. Locomotive Named After V.C.

Tenth Railway Squadron, Royal Engineers, stationed at Adabiya, near Suez, in the Canal Zone of Egypt, has three ex-L.M.S.R. Class "8F" locomotives now operating on the Adabiya-Ataka Military Railway.

These efficient 2-8-0s, constructed to Sir William Stanier's design, were originally built by the North British Locomotive Co. Ltd. and converted to oil firing. The first, No. 70320, was recently named *Lt. W. O. Lennox, V.C., Royal Engineers,* by the Chief Engineer, Middle East Land Forces (Major-General W. M. Broomhall), in memory of Lt. Wilbraham Oates Lennox, the first Royal Engineer to receive the Victoria Cross during the bitter fighting in the Crimea in 1857. A memorial chrome plaque affixed in the cab quotes the *London Gazette* citation relating to this officer's gallantry and devotion to duty. Tenth Railway Squadron R.E., now commanded by Major G. C. L. Alexander, was first given the number "10th" in 1806, and has been a Railway Squadron since 1885. Arrangements are already being made to name other former L.M.S.R. Class "8F" locomotives of this Squadron after other R.E. holders of the Victoria Cross.

Southern Region "Ws"

Referring to the alliterative sequences of station and signalbox names in the Southern Region beginning with "W," mentioned in our June 30 and July 7 issues, a correspondent points to the wealth of "Ws" on the Waterloo-Weymouth main line; in addition to the names cited, he draws attention to Woodfidley Gates (between Beaulieu Road and Brockenhurst), Worgret Junction (beyond Wareham), Wool, Woodsford Crossing Box (beyond Moreton), and West Moors and Wimborne.

Capital Charges

. . . Disappointment with the results of nationalisation has induced a number of proposals for getting rid of the capital charges in the nationalised industries. The suggestion that because the railways are running at a loss the interest charge should be shifted on to the general taxpayer is dubious enough. Inexcusable and vicious are the proposals for solving the problem by reducing or cancelling the compensation paid to former owners.

They are stupid as well. The compensation stock has already changed hands repeatedly, and the unsophisticated Labour delegate to the Trades Union Congress would be startled to learn into what hands it has fallen. Thus on March 31 last the National Insurance Fund held £156 million of British Transport Stock and £40 million of British Gas Stock.

Most of the delegates will travel down to Brighton in swift, clean, and comfortable electric trains which will do the 50-odd miles dead on the hour. They could do worse than keep their eyes and minds open during the journey, and reflect on the value of the undertaking.

How far would they get if they had to walk? Not as far as Clapham Common, and the pubs would be full of delegates too exhausted to inquire whether the price of beer contained any element of interest charge. . . .

Here's a population that wants its housing, its transport, its coal, its gas and electricity free of capital charges, so that it can more easily meet the capital charges on football stands and dog-racing tracks. Here's a bunch of decent men who wouldn't dream of bilking on their hotel bills solemnly considering an act of wholesale looting.—*From an article by George Schwartz in "The Sunday Times."*

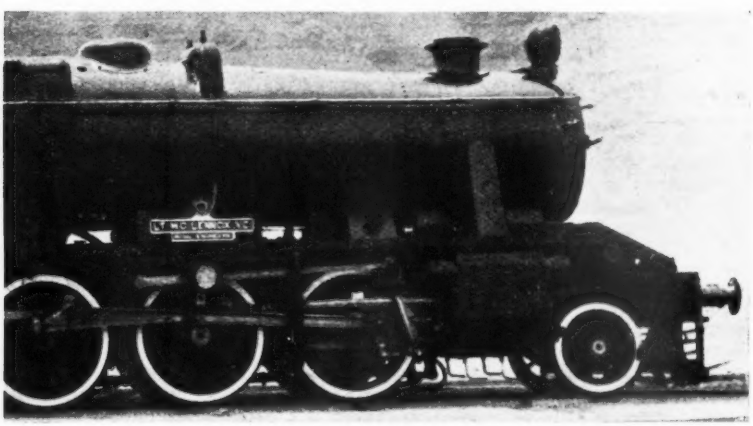
Pneumatic Despatch

The recollections of travel on early underground trains are somewhat undermined by a challenging suggestion that the first person who travelled by Tube in London was an unknown female who made a startling journey as long ago as 1863. In that year the Pioneer Tube was opened by the Pneumatic Despatch Company; it was 4 ft. in height by 4 ft. 6 in. in width, and was designed to carry parcels and mails from Euston Station to the General Post Office. However, the *London Journal* for the year records that "not only have letters and parcels been transmitted through this Tube, but we hear also that a lady, whose courage and rashness—we know not which to call it—astonished all spectators, was actually shot the whole length of the Tube, crinoline and all, without injury to person or petticoat." A pretty sight, indeed, that must have been.—*From "The Manchester Guardian."*

Tailpiece

As you travel by train, note the while you proceed
The flowers in gardens on stations,
The staff who attend them are eager to heed
The passengers' anxious orations;
Combined is their service; combined are their powers;
They give of their best, and they say it with flowers.
The "powers that be" give a blessing to those
Who tend little gardens on stations,
For pride in the pansy, the lily, the rose,
Means care shown on other occasions;
An orderly platform; a smile on the face;
Makes welcome the passenger using the place.
The story which tells that in days long ago
A guard left his train whilst in motion
To gather wild flowers (his train was so slow),
Is baseless—an uninformed notion—
At the end of his run he was shocked to espy
A weed in his roses, the pride of his eye.

A. E. C.



W.D. locomotive named after Crimean hero (see paragraph above)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Coalfields Line

The extension of the Oogies-Vandyksdrif line to Broodnyersplaas, 11¾ miles, was opened under construction conditions for general goods traffic on April 1 last. The original line to Vandyksdrif was constructed to serve the collieries in the Witbank area, and the extension became necessary to meet the demands of the Vanderbijl steel industries for coking coal, of which large deposits exist in proximity to Broodsnyersplaas.

Construction of the new line began in July, 1949, and has not presented great engineering difficulties. A stream, the Koringspruit, had to be bridged in two places, and to avoid level crossings a subway and an overhead bridge have been built where roads had to be crossed. There remains one level crossing to be eliminated later when the existing course round a hill is replaced by a tunnel. The total cost of the line is about £404,000. The terminus is suitably placed for future extension of the line to Hendrina.

RHODESIA

Working Results

Revenue for the twelve months ended March 31 last amounted to £9,939,095, an increase of £1,217,746 over the previous comparative period. Expenses were £8,437,152, £1,654,360 greater than in the preceding financial year, leaving a net operating revenue of £1,501,943 (a decrease of £436,614).

Passenger Traffic

Passengers carried over the sections north of Bulawayo totalled 2,374,222. First and second class passengers decreased by 14,820, though the demand on European coaching stock remained heavy, but third and fourth class passengers, almost entirely Africans, increased by 81,865 and will increase much more as soon as new stock on order is received. During the recent Rhodes and Founders' holiday weekend, July 8-11, large queues of Africans who wished to travel were unable to do so.

MOROCCO

Tangiers-Fez Railway in 1949

The Tangiers-Fez Railway (Compagnie Franco-Espagnole du Chemin de Fer de Tanger à Fez) incurred a loss of fr. 107,467,319 in 1949. The section in French Morocco accounted for the largest part, fr. 97,256,830; the losses in respect of the section crossing Spanish Morocco and of that in the international Tangiers zone amounted to fr. 5,016,093 and fr. 5,194,396 respectively. Of the loss on the French section the share to be met by the company, i.e., fr. 24,314,207 has been borne, as in 1947 and 1948, by the Compensation Board of the French Protectorate.

The distance between Tangiers and Fez is 194½ route-miles, of which 10 miles are in the international Tangiers zone, 55¼ miles in Spanish Morocco, and the rest in French Morocco. Alcazarquivir, 65¼ miles from Tangiers, is the frontier station between French and Spanish Morocco. The railway, standard-gauge throughout, is partly electrified (69 route-miles). Petitjean, 126½ miles from Tangiers, is the junction with the main line from Marrakech, Casablanca, and Rabat.

INDIA

Progress at Chittaranjan

About 70 per cent. of the work has been completed on the Chittaranjan locomotive workshops in West Bengal. It is expected to begin the production of locomotives by the end of February, 1951. Seventy million rupees, out of a total sanction of Rs. 140 million has already been spent on the project.

The work of assembling locomotives will begin by the end of this year. At present 30 per cent. of the components are being manufactured and the rest will be imported from abroad. By 1954 it is expected that 100 per cent. of the components will be manufactured at Chittaranjan. Over half of the locomotives required by Indian railways will be manufactured in the workshops by 1956. The rest will be supplied by the Tata Engineering & Locomotive Company.

Proper housing accommodation has been provided for the workers at Chittaranjan. The colony is divided into five different townships and possesses all civic amenities, hospitals, high schools, and maternity clinics. Of the 14,000 men working on the project 2,000 are skilled.

CANADA

Temiscouata Railway Taken Over

On July 12, the Canadian National Railways took over the Temiscouata Railway operating between Riviere du Loup, Quebec, and Edmundston, New Brunswick. It is now known as the Temiscouata sub-division of the Edmundston Division of the Canadian National Railways.

New Equipment Ordered

Orders for new freight and passenger equipment, amounting to over $6,000,000, have been placed by the Canadian National Railways. These orders include 50 all-steel baggage vans by National Steel Car Corporation Limited, Hamilton; six all-steel sleeping cars of eight sections and one drawing room for service in Newfoundland by Canadian Car & Foundry Co. Ltd., Montreal, all for delivery in 1951; 100 longitudinal hopper cars of 70-ton capacity by National Steel Car Corporation Ltd., and 100 covered hopper cars of 70-ton capacity by Canadian Car & Foundry Co. Ltd.

ARGENTINA

Suspension of Work on Branch

Construction work has ceased on the new line between La Cocha and Superí, General Belgrano Railway, for reasons of economy. This line is the last link of the direct railway between the capital cities of Tucumán and Catamarca.

Inspection Trip to Río Turbio

The Minister of Transport and the President of the National Railway Directorate recently made an inspection trip to the Río Turbio coal mines to investigate the progress being made with the construction work being carried out on the narrow-gauge light railway which will connect the Río Turbio mines with the port of Río Gallegos, expected to be completed in 1951.

BRAZIL

Stainless Steel Coaches

In February, the last of 63 stainless steel air-conditioned coaches for the Central Railway of Brazil were offloaded in the port of Rio de Janeiro. These coaches, which are running on the Rio-Sao Paulo and Rio-Belo Horizonte services, were built by the Budd Company of Philadelphia. They have fluorescent lighting, hydraulic shock absorbers, and complete sound-proofing, and weigh 44 tons.

The new coaches are striking in appearance, economise in paintwork and upkeep, and do not absorb the sun's heat. They are provided with ice-water, and telephones to the dining-car. Some of them have been designed as sleeping cars carrying 24 passengers, and as Pullman, baggage, and observation cars. Some of the day coaches, which carry 76 passengers, are provided with special smoking compartments. The air-conditioning is carried out by General Motors "Frigidaire" equipment.

Brazil is the first Latin-American country to adopt this type of coach, and their purchase was one of the largest transactions of its kind, as each coach cost cr.$2,000,000.

MEXICO

New Trunk Line Nearing Completion

The new 450-mile, standard-gauge railway linking the Yucatan peninsula with the railway system in the rest of Mexico is now virtually complete. It runs from Coatzacoalcos, the present terminus on the Gulf of Mexico, inland, but eastwards to Tenosique, near the Guatemala frontier, and thence northeastwards to Campeche, the southern terminus of the existing isolated Yucatan

railway system. Construction has been retarded by heavy rainfall and tropical disease in the construction gangs. The route lies mainly through jungle. Construction was involved of over 500 bridges, the largest being the Mezacalapa River bridge, which is 3,000 ft. in length.

FRANCE

Electrification

Work is proceeding slowly on the conversion to 50-cycle single-phase of the 48½-mile line from Aix-les-Bains to La Roche-sur-Furon. The single substation at Annecy is completed and the masts and overhead wires are erected at Annecy Station and yard. From Annecy to Aix all the steel masts, with most of the overhead wires, are erected, and the running rails are bonded. The electrical connections between the 50-cycle line and the 1,500-V. d.c. Culoz-Modane line at Aix are also finished. Hardly any masts east of Annecy are erected except to Croisey-Thorons; the auxiliary cables are laid to the 75th km. post east of Aix. The principal passenger trains, from 260 to 340 tons in weight, are being worked at present over this section by ex-P.L.M. 2-8-2 steam locomotives.

PORTUGAL

British Stock on Estoril Line

Considerable improvements in the frequency and speed of trains have been effected in the summer timetable of the Estoril Electric Railway as a result of placing in service the new motor coaches and trailers and the electric locomotive supplied by The General Electric Co. Ltd. (see *The Railway Gazette* of May 19 and June 30).

On the first appearance of a train formed of the motor coaches and trailers, the name of "Blue Arrow" was bestowed on it by the public, and a correspondent of the *Diario de Lisboa* (to whom we are indebted for the accompanying illustration) recorded the following impressions of the journey:—

"Travellers on the Costa do Sol had a pleasant surprise today; the new coaches which arrived recently from England had entered service. The first train formed of the new rolling stock left Cascais at 9.15 a.m. and in a fast run from S. Joao do Estoril to Lisbon reached a speed of 53 m.p.h. But as the train in front was only five minutes ahead, the "Blue Arrow" could not demonstrate its capabilities. . . .

"The new coaches, with their imposing streamline form, simple and graceful, painted blue with white upperworks, and designed for maximum comfort, make the journey most agreeable. These improvements greatly enhance the attractions of the Costa do Sol, where the existing stock still consists of many coaches requiring replacement. What is essentially a tourist line has up till now had too much noise and uncomfortable vibration. The new stock has completely eliminated these discomforts. The drumming of metal and creaking of wood will very soon be only a memory. . . ."

ITALY

Nord-Milano Railway in 1949

The standard-gauge Nord-Milano system (Ferrovie Nord-Milano), which handles much of the Milan suburban and outer-suburban traffic, mainly to the north and north-west, recorded a working loss of lire 446,300,000 in 1949, compared with lire 455,200,000 in 1948. This was still more than four times the company's share capital and reserves, totalling lire 103,500,000 (reduced from lire 320,000,000). Thanks to a large-scale rebate in taxation granted by the State with the aim of improving its financial situation it was possible to reduce the debit balance for 1949 to lire 10,400,000. The company is an associate of the Edison group, the leading group of the Italian electricity industry, and is partly controlled by the Strade Ferrate del Mediterraneo.

Of the 165¼ route-miles nearly 46 miles are electrified. It consists of the following line:

Electrification in hand and to be completed this current year comprises the Saronno-Malnate section, 15 miles, of the Laveno line. The conversion of the Malnate-Varese Nord-Laveno section is to be put in hand in 1951. Pending the eventual reconstruction of the Turbigo-Novara section, comprising the rebuilding of a destroyed bridge which carried the line over the Ticino river, the company runs road services, for both passengers and goods, between these points.

SWITZERLAND

Lausanne-Olten Doubling

Doubling has been in progress for some time on two sections of the Lausanne-Olten main line. The first is the three-mile section between Boudry and Auvernier, connecting at Auvernier with the existing double-track section to Neuchâtel. The work includes the realigning of part of the Boudry-Auvernier section (with one intermediate station, Colombier, 1¼ miles north of Boudry), with minimum curve flattened to enable speeds of up to 65 m.p.h. to be maintained. Two level crossings have been abolished and an additional platform and subway connection with the station building have been built at Boudry. The second track is to be opened to traffic on May 20, 1951. The cost of the second track, realignment, and all other work is estimated at fr.5,165,000.

Further north, the doubling is in hand on the ten-mile section between Oensingen and Olten-Hammer, 1¼ miles south of Olten. On this section the second track between Oensingen and Oberbuchsiten, three miles, is to be opened on September 1 next, and the Oberbuchsiten-Egerkingen section, 1·8 miles, on October 1. It is hoped to complete the doubling between Egerkingen and Wangen, 3¾ miles, by the end of 1951, and that between Wangen and Olten-Hammer in 1952.

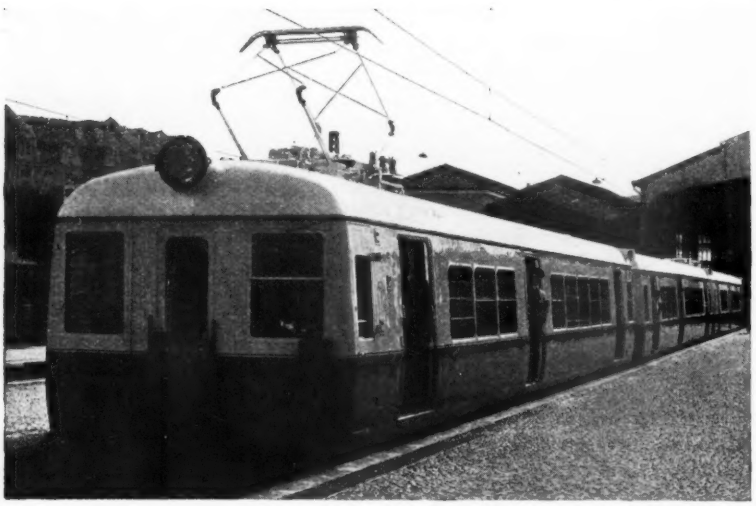
When this is completed the following sections of the Lausanne-Olten main line will be second-track:

	Route miles
Lausanne-Yverdon	24·8
Boudry-Neuchatel	6·2
Neuchatel-La Neuveville ...	9·3
Bienne-Soleure	16·1
Oensingen-Olten	11·1
Total	67·5

There will therefore be double-track working over nearly three-quarters of the whole line, 103 route-miles.

Double-Track Lines

Of the total of 1,847 route-miles constituting the system of the Federal Railways, only 708 were double-track by the beginning of 1949. This was not far short of twice the double-track route-mileage of 329 route-miles inherited from the former privately-owned railways when nationalisation began in 1902.



Train of G.E.C./Craven's motor coaches and trailer at Cais do Sodre Station, Lisbon, Estoril Electric Railway (see paragraph) above

The Railway Situation in U.S.A.—2

Federal policy relating to inland waterways transport

(By a Correspondent)

AN article in the June 9 issue of *The Railway Gazette* explained that the Association of American Railroads had submitted a series of reports on aspects of the railway situation to the Senate Committee on Interstate & Foreign Commerce which was making a complete study of domestic land and water transport.

Through the courtesy of the Librarian, Bureau of Railway Economics, Washington, copies have been made available of several statements presented on behalf of the railway industry. These throw fresh light on transport evolution in the U.S.A. and it is therefore proposed to publish summaries of their contents. For a beginning, the paragraphs below analyse the evidence given by Mr. Gregory S. Prince, Assistant General Counsel, A.A.R., on federal policy relating to inland waterway transport.

Total Mileage

The mileage of inland waterways in the States is 28,600, including 12,000 miles for the Mississipi, with its tributaries, and about 1,500 miles for the Great Lakes. Last year, rivers and canals worked 40,000 million ton-miles of traffic, and the Great Lakes 95,000 million, compared with 533,000 million ton-miles moved by the railways, when mail and parcels are taken into account. The total federal expenditure on inland waterways may be put at $2,300 million, and in addition maintenance, which, of course, is a recurring item, cost $83 million last year.

There is a large backlog of projects which have been authorised but not yet started. Since the end of the war, carryings by river and canal have increased each year, whereas traffic on the Great Lakes has been steady over a long term of years. A substantial amount of business has been diverted from rail to water and this trend is likely to continue.

Mr. Prince argued that the inroads on rail tonnage were not due to inherent advantages of water transport, but to the fact that no charge whatever is made for the use of inland waterways. The waterway users are subsidised to the extent of $125 million a year, which is borne by the general taxpayers. This arrangement hits the competing railways in two ways; they lose a good deal of traffic and are driven to cut rates in an effort to avoid further losses. The benefits from free water services and from lower rail rates go to a relatively few large shippers of bulk commodities, such as coal, sand, gravel, stone, petroleum products, iron and steel. The Government's present policy thus brings about inequalities and discriminations, the very things regulatory statutes were passed to prevent.

The remedy is to make every transport agency pay all its own costs and charge enough for its services to cover expenses. Adequate tolls on improved waterways would relieve taxpayers from the burden of subsidies and would equalise opportunities between competing types of transport. The Interstate Commerce Commission would then be able to regulate the operations of inland waterways effectively.

Procedure for Authorising Projects

For over 100 years the Army Corps of Engineers has been responsible for examining proposals to improve inland waterways. A Board of Engineers for Rivers & Harbours acts in conjunction with the Chief of Engineers. There are standing orders for consulting many federal and state bodies about important schemes, but these ignore the Interstate Commerce Commission which is the agency charged with the duty of giving effect to the Government's transport policy, through the development of an *integrated* national transport system. Reports on large projects go finally to the Public Works Committees of the House and Senate, which decide whether the proposals should be approved and be added to the list of "authorised" schemes.

In Mr. Prince's opinion, the Engineers have "proceeded upon a basic misconception of what constitutes an economic justification of a navigation project." The expenditure on any project is balanced against benefits, on an annual basis. The expenditure includes, moreover, interest and amortisation charges on the investment, together with maintenance costs.

The benefits are composed almost entirely of "savings," which are expected to accrue to users of the waterway. These are not "savings" in an economic sense, but represent the transfer of a part of the price of transport from users to taxpayers. Yet the engineers put forward any project whose annual benefits exceed expenditure, without considering "the need or the lack of need, in the public interest, for additional transportation facilities, the effect which the construction of the project would have on existing forms of transport serving the area, and the resulting effect upon the transportation system as a whole."

Railways at a Disadvantage

The Interstate Commerce Commission has no control over the extension of facilities for water transport, though it must approve the construction of a new railway line before the work can proceed. Mr. Prince urged insistently that the Commission, because of its experience, qualifications, and broad responsibilities, was the appropriate body to determine whether a case existed for extending any inland navigation. He also suggested that Congress might give thought to the wisdom of referring inland waterway projects to the Committees of Interstate and Foreign Commerce, instead of to the Public Works Committees.

The Inland Waterways Corporation, wholly owned by the Government, was set up in 1924 to manage the Federal Barge Line, which operates on the Warrior, Mississippi, and Missouri rivers and on the Illinois waterway. The corporation is not debited with interest on the Government investment, is exempt from taxes, gets free postage and reduced rates on telegrams, and does not bear the cost of workmen's compensation.

In spite of these preferential concessions the corporation had an accumulated deficit of $15,600,000 on its books at June, 1949. Users of the Barge Line are, in effect, subsidised twice, so that the railways regard its competition as unfair and feel strongly that the Government should abandon this costly experiment in water transport as promptly as possible.

This survey of a highly contentious problem reads convincingly and establishes the need for revising federal policy relating to waterways. The policy hitherto pursued has not provided a common carrier service by water in any way comparable to that furnished by the railways.

The result has been to open a free right-of-way over which less than 5 per cent. of U.S.A. freight traffic has moved with advantage to a limited number of large industrial concerns. This state of affairs is incompatible with the principles underlying the national policy enunciated in the Interstate Commerce Act and cannot be quoted as an example of American efficiency in business matters.

TRIBUNAL DECISION ON ROAD HAULAGE COMPENSATION.—The first case concerning compensation for a road haulage undertaking to come before the Transport Arbitration Tribunal recently resulted in a decision in favour of the company. This undertaking was Liss Transport which was compulsorily acquired under the Transport Act. The company could not agree with the Road Haulage Executive on the amount of compensation to be paid and the Tribunal awarded the company £14,250. Mr. C. Montgomery Whyte, K.C., Chairman, said that the company had claimed £16,572 and the Road Haulage Executive had submitted that the value should be £11,000. The Tribunal also decided that a claim for £450 compensation for loss of development rights under the provisions of the Town & Country Planning Act, lodged by the company before it was acquired, should rest with the company.

Electrification of the Norwegian State Railways

Development of hydro-electric power resources in a mountainous country devoid of coal

IN 1949, Norway produced in hydro-electric plants approximately 13,000 million kWh., using only some 16 per cent. of the potential water-power in the country. The electric power available has so increased the industrial production of Norway that now almost as many persons are employed in industry as in agriculture. Electrification, therefore, is an important item in the railway development programme, in view of the cheapness and ready availability of electric energy compared with that obtained from other sources, and of the steep gradients and many long tunnels. If work progresses to schedule, the more important lines will be electrified by 1970.

In 1892, M. Gunnar Knudsen, for many years Prime Minister of Norway, presented a plan to the Storting for State purchase of waterfalls for the purpose of railway electrification. A bill for the electrification of the railway from Oslo to Sandviken was introduced in 1897, and the first bill for electrification of a State railway was passed in 1912. The first electric lines in Norway were built and operated by private enterprise; the Thamshavn Railway was opened in 1908, and the Norsk Hydro lines from Rjukan to Mael and from Tinnoset to Notodden in 1911. (The Tinnoset-Nottoden section has been operated as a State Railway since 1920.)

Decision Reversed

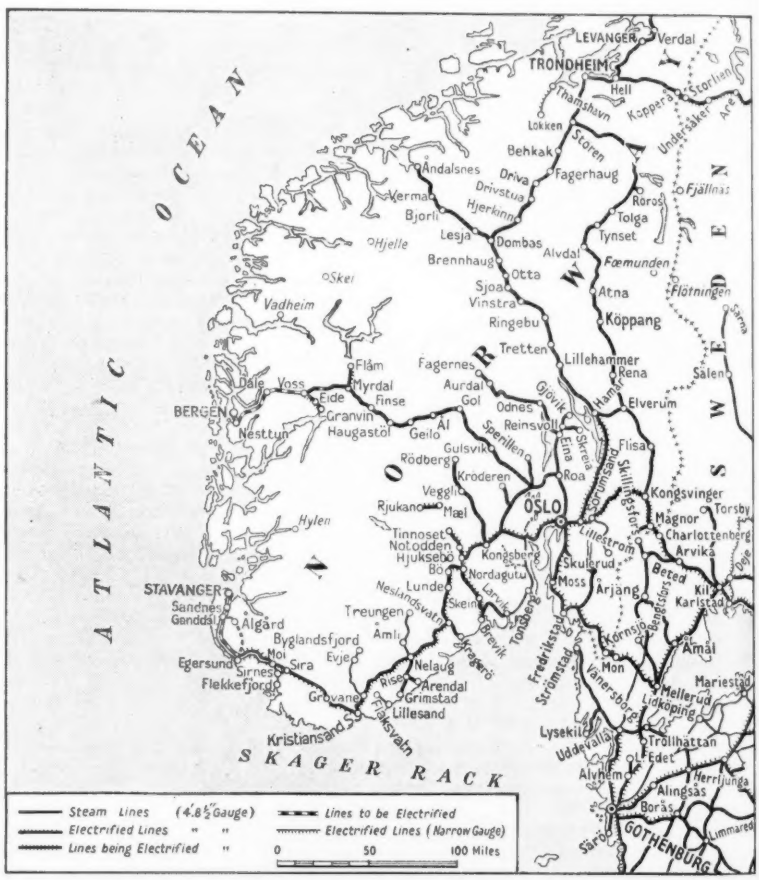
The State Railways appointed a committee to study electrification; this in 1916 presented its report, the main proposals of which were implemented. They included single-phase alternating current as the most suitable system. As to whether the railways should make use of water power in single-phase plant of their own, or use the regular public current converted, the committee recommended the former alternative, and the building of a power plant at Hakavik was approved as a State railway project. The principle of building special plant for single-phase current was later dropped in favour of using public current converted for traction use. This was supported by a committee appointed by the Norwegian Civil Engineers' Society in 1922, which agreed also to single-phase alternating current of 16⅔ cycles and a voltage of 15,000. Only the Ofoten Railway from Narvik to the Swedish border differs, with its 15-cycle supply.

After the electrification of the Oslo-Drammen Railway was completed in 1922, further work proceeded slowly until 1929, when electrification practically ceased, to be resumed in 1936. At the end of 1949 electrification totalled 530 route-miles, or 720 track-miles. This represents about 20 per cent. of the total State Railways mileage, but as the electric lines include the sections with the greater density of traffic, some 40 per cent. of all traffic is electrically hauled.

The accompanying table shows lines now electrically operated and the years in which electric traction was inaugurated. Where two years are shown, the section was electrified piecemeal in the period between.

Section	Year opened	Mileage: Route miles	Mileage: Track miles	Source of current
Oslo—Drammen	1922-30	32·9	62·2	Hakavik, Alnabru, Ski
Orotbanen (Narvik—Swedish Frontier) ...	1923	26·1	34·8	Narvik
Oslo—Lilleström	1927			
Loenga—Alnabru	1928	16·8	58·4	Ranasfoss and Nore Plants
Loenga Yard	1930			
Drammen—Kongsberg	1929	51·6	68·4	Hakavik
Kongsberg—Hjuksebo	1936	17·4	19·9	Bergenshalvöens
Voss—Granvin	1935			
Notodden—Borgestad	1936	56·6	70·3	Hakavik and Svelgfoss
Notodden—Tinnoset	1911			
Skien—Eikonröd	1944	9·9	14·3	
Brevik—Borgestad	1949	105·7	145·5	Hafslund
Oslo—Kornsjö	1936-40			
Nordagutu—Neslandsvatn	1942-43	136·0	156·0	Hakavik
Neslandsvatn—Kristiansand	1948-49			
Kristiansand—Sira	1944-46	64·6	74·6	Vest—Agder Elberk
Flamsbanen (Myrdal—Flam)	1944	12·4	14·3	Kjosfoss
		530·0	718·7	

In 1940, before the German invasion, the Storting passed a bill for electrification of the lines mentioned



Map of Norway showing existing and proposed electrified lines

Typical transformer station

below, and in 1945 approval was given to acceleration of the project:—

Sörland Railway: Oslo-Stavanger, 370 miles, of which 320 miles were electrified up to February, 1950, and the remainder are expected to be electrified by 1953.

Borgestad-Brevik section: 10 miles, completed in 1949.

Kongsvinger Line: The section Lilleström-Kongsvinger-Swedish frontier, 71 miles, will probably be completed in 1951.

Bergen-Voss Railway: 66 miles, to be completed probably in 1954.

Lilleström-Hamar Section: 65 miles, preliminary works in progress and scheduled for completion by 1955.

When the present electrification project has been completed, 30 per cent. of the system will be electrified, conveying 60 per cent. of the traffic measured in gross ton-miles. Due to shortages and other difficulties caused by the war, Norwegian industrial production could not meet the demand for transformers, converters, locomotives, motors, and other equipment provided for in the pre-war plan. Converters and 13 electric shunting locomotives were ordered in Sweden. Other equipment, such as locomotives and motor cars, will be produced in Norway, though, to speed up delivery, certain parts will be obtained from other countries.

Among the many problems of electrification of the State Railways are:—(*a*) Appropriation of funds for construction of plant and purchase of rolling stock and equipment, particularly from hard-currency countries; (*b*) building of plants in mountainous country; (*c*) ordering of equipment, of which the delivery time is of great importance; and (*d*) delay in delivery of orders.

In accordance with the policy of the earlier years, power plants were erected specially for production of railway traction current. The Hakavik plant was put into service in 1922, and, later, two other hydraulic power stations, Nygard, which feeds the Narvik-Riksgrensen railway, and Kjosfoss, for the Flam railway. The former has been in operation since 1933. From 1923 to 1933 the Narvik-Riksgrensen line was operated with Swedish power connected with transformer stations in Norway by an 80-kV. feeder line.

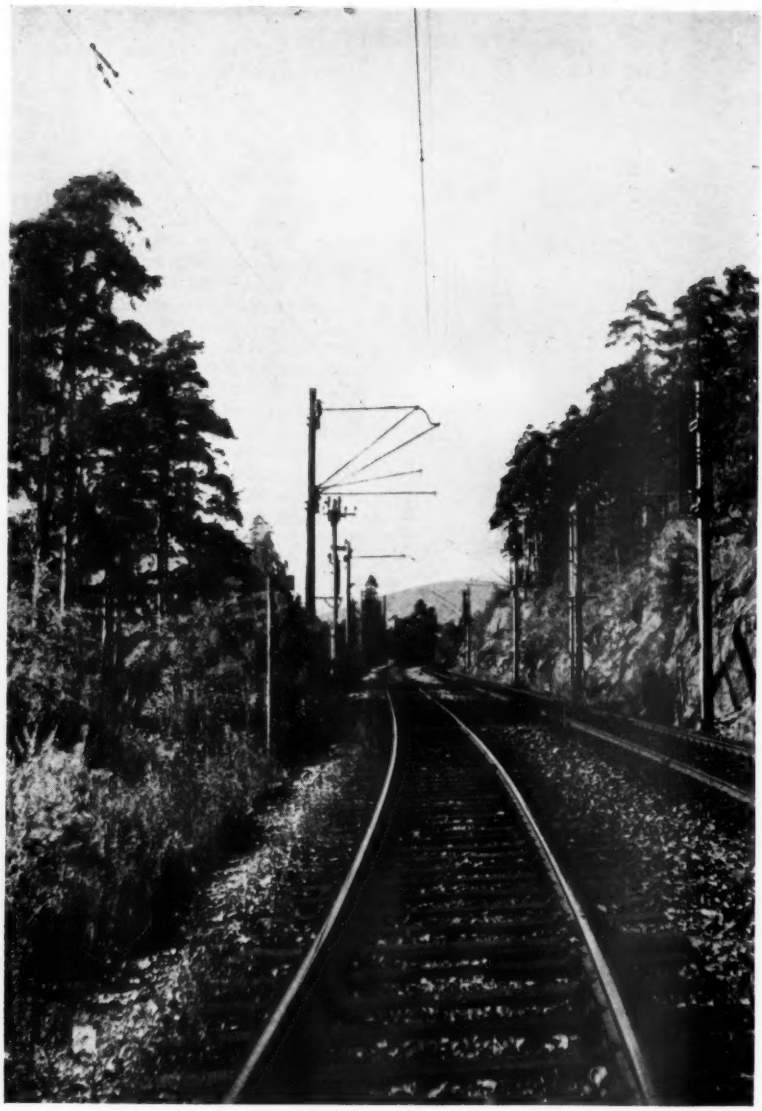
At Nygard, two single-phase aggregates are installed, feeding two transformer stations. The connection with the Swedish power system has been maintained for the purpose of mutual power exchange. The Kjosfoss power plant, near Myrdal, on the Oslo-Bergen line, was opened in 1944. Although the State Railways at that time had abandoned the erection of their own power stations, this plant had to be a State Railway project, as there was no other convenient source of power. The Kjosfoss plant has two aggregates, a single-phase generator and a three-phase 50 c/s generator, the latter serving the local public electricity supply.

With the exception of these three plants, current is supplied from the public electric grid through three-phase single-phase converters, located in bomb-proof shelters in tunnels.

Rolling Stock

The Norwegian State Railways at present possess 72 electric locomotives, 37 electric motor cars for suburban services, and four main-line electric railcars. Equipment on order includes 54 electric locomotives of various types, 43 suburban-service, and seven main-line railcars. For express trains with a maximum speed of 80 m.p.h.,

Ljan, a suburban station overlooking the Oslofjord



Double-track electrified line between Oslo and Ski

four-motor engines are used of a capacity of 720 kW.; three-car trains with 165 seats weigh 102 tons.

The power distribution lines of the State Railways are constructed with copper wire on pin insulators and with reinforced concrete masts built by private contractors; the catenary contact wire system is built by the State Railways. Impregnated wooden masts are much used. To eliminate operating delays caused by defects in the contact wire system, it is important to localise these defects quickly, for which purpose contact switches with remote control are being installed, with telephone contacts at all switch points. The rails are used for the return traction current. To counteract rail leakage and to minimise telephone interference, suction transformers are installed between contact wire and track with one winding in each.

Future Plans

When the present electrification programme is completed (it is hoped by 1955), the following further sections would be electrified in the normal course:—(*a*) *Vestfold Railway*: Drammen-Tönsberg-Larvik Eidanger; (*b*) *Ostfold Railway*: Ski-Mysen Sarpsborg. (This line at present suffers from a relatively high coal consumption; electrification will not require large initial capital, as no building of power stations is involved); (*c*) *Voss-Hönefoss-Oslo*: (extensive track alterations, enlargement of tuunels, and so on, will be necessary); (*d*) *Hokksund-Hönefoss*: (electrification must be considered in conjunction with that of the Voss-Oslo line, as it would be located between two electric lines, when electrification is completed as far as to Hönefoss. The cost of electrification will be comparatively low, as there will be no need to build power-stations); (*e*) *Gjövik Railway*, Oslo-Gjövik with its branches; (*f*) *Hamar-Dombas-Trondheim Railway*: (A considerable reduction in the price of coal would make the economic advantages of electrification somewhat doubtful, but new rolling stock may result in increased traffic, and coal consumption may increase accordingly. Further, if the advantages of electric operation are taken into account, specially for the Dombas-Trondheim section, electrification might well pay even in prevailing conditions).

The total length of these is 850 route-miles. With the present facilities for electrification, it would take approximately 15 years to complete the programme, after present plans are completed in 1955. This could be reduced to some seven years if the necessary funds were forthcoming.

JOHN BROWN & CO. LTD.—At the annual meeting in London of John Brown & Co. Ltd., Lord Aberconway, Chairman, said that the balance added to the credit of the profit and loss account as a result of the year's working was £515,256, an increase over the previous year of £7,000. This modest increase was, however, after providing for profits tax and income-tax to the extent of £547,280 as compared with £177,259 for the preceding year. It was agreed to pay a final dividend on the ordinary stock of 11d. per unit, free of income-tax, which with the 4d. per unit already paid would maintain the dividend at the same rate as last year, and enable the carry-forward to be increased by £190,000. Investments in subsidiary companies increased by some £960,000, by far the larger part of which represented the purchase from Thos. Firth & John Brown Limited of the ordinary stock of Firth Brown Tools Limited.

TIMBER DEVELOPMENT ASSOCIATION: HEADQUARTERS.—In the autumn the Timber Development Association will move its headquarters to College Hill, Cannon Street, London, E.C.4, where a red brick mansion of historic interest—associated with Dick Whittington—has been bought. These premises will be large enough to house all the London staff including those engaged in research and design on behalf of the timber industry throughout the country.

UNITED KINGDOM OIL SUPPLIES.—The Regent Oil Co. Ltd., 117, Park Street, London, W.1, announces that agreement has been reached between its American parent company, the California Texas Oil Co. Ltd., which supplies 50 per cent. of its requirements, and H.M. Government, whereby arrangements have been concluded for the supply of oil to the United Kingdom and other sterling markets on a permanent basis. The operation of the plan involves the conversion of a large proportion of Caltex dollar costs to a sterling basis, and payment of income and other taxes in the United Kingdom, as well as transferring a large part of their general operations from New York to London.

New Power Bogie Locomotives in France

Two prototypes for fast goods traffic on the steeply-graded Limoges-Montauban section of the S.N.C.F.

TRIALS have been carried out recently with two electric locomotives designed specifically for fast goods traffic on the steeply graded Montauban-Limoges line of the French National Railways. Normally the trains are worked by Bo-Bo locomotives, but double-heading is necessary to handle loads of 1,200 tons on the 1 in 100 gradients of this section, and designs therefore were prepared early in the war for two prototype six-axle machines. Both have been built by the Matériel de Traction Eléctrique group of companies, and were delivered in 1946 and subsequently.

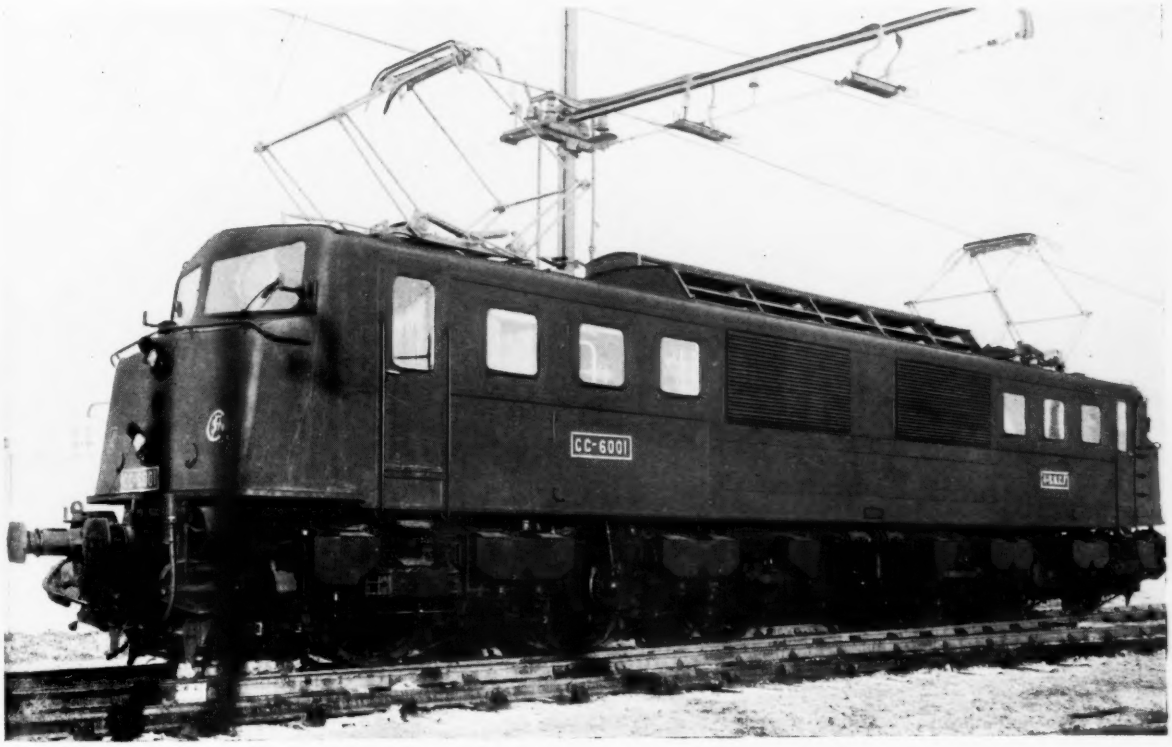
One design is based mechanically on the Bo-Bo class, but has the Co+Co wheel arrangement and a novel type of control system. The second locomotive is a Bo-Bo-Bo with non-articulated bogies and electro-pneumatic contactor control. Both locomotives have axle-hung motors. Their adhesive weight is approximately 120 tons, permitting tractive efforts in the region of 45,000 lb. on gradients of 1 in 100. The h.p. rating is approximately 3,000, so that the locomotives can negotiate lengthy gradients or run at speeds comparable with the existing 2-Do-2 classes on favourably graded track. A 1,200-ton load can be hauled up a bank of 1 in 100 at 28 m.p.h. Regenerative braking can be used in both locomotives.

Co+Co Locomotive

The main electrical novelty of the Co+Co locomotive is its camshaft control system with automatic acceleration, believed to be the first example of automatic control of notching in a machine of this size and power. Two motor groupings are used, namely two parallel groups of three motors in series, and three parallel groups of two motors in series. Minimum field is 36 per cent. of the full value.

Bogies and body are of all-welded construction, and account respectively for 65 per cent. and 35 per cent. of the total weight of the locomotive with all electrical equipment installed. A special articulated coupling device between the bogies incorporates a system of springs to counteract weight transfer; and an arrangement of lateral shock-absorbers with spiral springs is provided to check hunting. The body rests on the bogies through the usual pivot with two sprung side bearers, together with a third resilient bearer which helps to distribute the weight evenly despite the out-of-centre position of the pivot necessary in a three-axle bogie. The bogie and suspension system as a whole was designed with the object of enabling the locomotive to haul 750-ton passenger trains on the Limoges-Montauban line at speeds up to the permitted maximum for this route of 65 m.p.h.

During its trials the Co+Co locomotive maintained 31 m.p.h. with 460 tons up 1 in 33. On speed tests the bogie oscillation at 78 m.p.h. was less than the minimum expected. This speed performance was important because it was not intended that either locomotive should be confined to the Limoges-Montauban route, but should be able to take turns with the 2-Do-2 classes elsewhere if necessary.



Co+Co locomotive with automatic camshaft control

Bo-Bo-Bo Design

In the Bo-Bo-Bo locomotive the traction forces are transmitted through the underframe and there is no interconnection between the three bogies. All the bogies are linked with the underframe by devices arranged to check hunting and give a self-centring tendency; and each has a pneumatic system that restrains vertical movements and resists weight transfer.

In the end bogies the body is carried on sprung bolsters with side bearers and

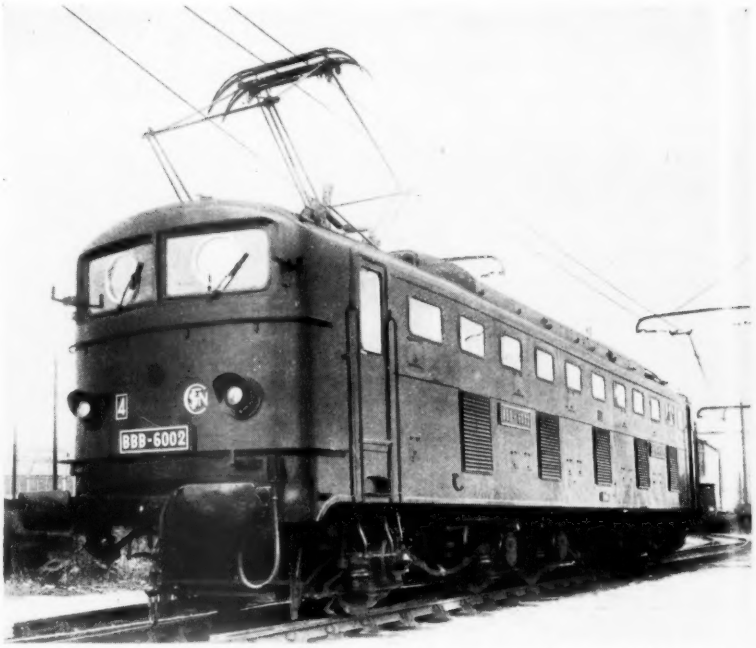
provision for lateral movement of the pivots under the restraint of springs. The central bogie is equipped with side bearers only, its pivot serving merely to transmit the traction forces and afford a means of rotation.

Each bogie is equipped with two axle-hung traction motors of a special high-speed design that has enabled their weight to be kept low, with the result that in this locomotive the complete motor bogies contribute only 45 per cent. of the total weight of the machine, and the body 55 per cent. The rotational speed of the armatures is 2,100 r.p.m. at 65 m.p.h., compared with 1,600 r.p.m. for the Co+Co motors. Their weight of 7,081 lb. represents 13 lb. per horsepower at the continuous rating. This reduction in weight is important for the riding qualities of the locomotive, resulting in bogies of low inertia.

Notching is controlled by hand, and three motor combinations are used—all in series, two parallel groups of three motors in series, or three parallel groups of two motors in series. In both locomotives the control circuits are supplied at 72 V. from a motor-generator equipped with floating battery, and the whole of the electrical equipment is protected by an Alsthorn high-speed circuit-breaker.

The Bo-Bo-Bo locomotive is equipped with a separate brake cylinder for each wheel, a system used already in railcars but a novelty in locomotive practice. The speed both of application and release is under the driver's control.

The two locomotives improved on the standard timings for the Limoges-Montauban line when hauling test trains of 1,200 and 750 tons. With these loads the less severe banks were climbed at 50 m.p.h.



Bo-Bo-Bo locomotive with independent bogies incorporating special restraints against hunting and weight transfer

Freight Haulage in South African Docks

Goods train hauled by Class "E5" shunting locomotive on line connecting Durban Docks with the main line

Southampton Docks Ocean Terminal

(see also page 158)

First class and tourist class lounge with shops and offices on the right

Cabin class lounge at the Southampton Docks Ocean Terminal, British Railways

Southampton Docks Ocean Terminal

(*see also previous page*)

First class and tourist class Customs shed in new Ocean Terminal

Baggage and cargo bay running the full length of the building

RAILWAY NEWS SECTION

PERSONAL

Mr. Walter S. Thompson, Director of Public Relations, Canadian National Railways, is retiring in October.

Captain Hugh Vivian, M.I.Mech.E., M.I.Loco.E., M.I.M.M., President, Beyer, Peacock & Co. Ltd. and one time Director of the Great Western Railway Company, has been appointed a Director of Lake George Mining Corporation Limited, in place of Sir Samuel Wilson, who has resigned.

Mr. Anacleto Tobar, who has recently been appointed Chief of the Mechanical Department, General Belgrano Railway, Argentina, was born in 1900 at Bragado, Province of Buenos Aires. After completing his secondary school education, he graduated as a Civil Engineer, with first class honours, in 1924, and won several prizes for treatises on mathematics and physics. Mr. Tobar worked for a time on the exploration of petroleum deposits in the Northern Provinces before entering the service of the Argentine State Railways. Subsequently he was sent to Europe to acquire further technical knowledge, and on his return was assigned to various posts until his recent appointment as Chief of the Mechanical Department. Mr. Tobar has lectured at technical schools, founded several schools for workmen, and at present is lecturing in the National University of Tucmán on railways, special constructions, and airports. He is Advisor to the Argentine Northern Provinces Institute and to the Institute of Highways.

Mr. Anacleto Tobar

Appointed Chief of Mechanical Department, General Belgrano Railway, Argentina

Mr. J. B. Burnell, Operating Manager (Central Road Services), London Transport Executive, has been appointed a Justice of the Peace for the County of Middlesex.

British Railways, Eastern Region, has announced that Mr. B. A. Coulson, Assistant to District Goods Manager, Leeds, North Eastern Region, has been appointed Assistant (Cartage Working), Office of the Commercial Superintendent, Eastern Region, Liverpool Street.

Mr. P. R. Angus, Chief Mechanical Engineer, New Zealand Government Railways, has retired, and has been succeeded by Mr. J. Binstead, formerly Assistant Chief Mechanical Engineer. Mr. R. F. Black, District Mechanical Engineer, Wellington, has been appointed Assistant Chief Mechanical Engineer and has been succeeded in his former position by Mr. H. Z. Purchase, Assistant District Mechanical Engineer, Wellington.

Mr. C. A. Humphries, Chief Welfare Officer in the Staff & Establishment Department, Western Region, British Railways, who, as recorded in our July 28 issue, has been appointed Welfare Officer, Staff & Establishment Department, Railway Executive headquarters, entered the Great Western Railway service at Swindon in 1905, and was for several years in the locomotive, carriage & wagon accounts section. He served in the Forces from 1915 and was appointed Acting Paymaster under the Southern Command after the Armistice; he was retained by the War Office for special duties until 1920. Mr. Humphries went to the office of the General Manager, Paddington, in 1926, and spent 18 years in the promotion of educational, recreational and charitable organisations for the staff and their dependants before his appointment, in 1944, as Welfare Officer, G.W.R., and, since nationalisation, the Western Region. He has also been Director of Festivals of Music & Drama in the Western Region, and Liaison Officer for National Savings. Since the inception of the Joint Advisory Council for Welfare in 1948, he has served as an advisor to that body.

Mr. C. A. Humphries

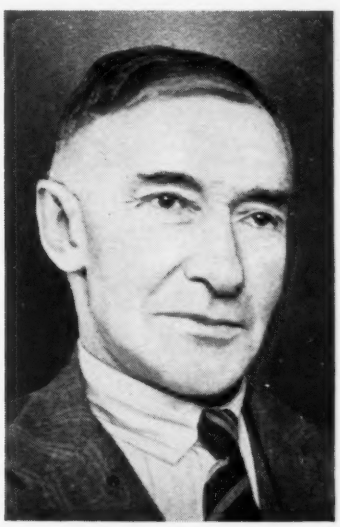
Appointed Welfare Officer, Railway Executive Headquarters

The Consolidated Pneumatic Tool Co. Ltd. has announced the resignation of Mr. R. E. L. Izod, A.M.I.Mech.E., its British Sales Manager and a member of the board of Directors.

Mr. W. L. Fraser has resigned from the board of Tube Investments Limited.

Mr. L. B. Unwin, M.C., Vice-President, Finance, Canadian Pacific Railway, left Liverpool for Canada, by the *Empress of France*, on August 8.

We regret to record the death on August 3 of Mr. Edgar C. Bredin, M.I.Mech.E., M.I.C.E. (Ireland), who retired from the General Managership of Córas Iompair Eireann in 1946. He was educated at Mountjoy School, Dublin, and began his engineering training in 1905 at Gloucester. He joined the Great Southern & Western Railway at Inchicore in 1907; for some years he was attached to the Locomotive Engineer's Office, and was engaged particularly in research connected with fuel consumption. Subsequently he was appointed Junior Assistant to the Locomotive Running Superintendent. In 1911 he became Shed Foreman at Rosslare, and three years afterwards he became Assistant to the Running Superintendent, Northern District, Inchicore, of which he afterwards was District Superintendent. In 1916 Mr. Bredin was appointed Assistant Works Manager, and five years later assumed the full duties of Works Manager at Inchicore. On the formation of the Great Southern Railways in 1925 he carried out the re-organisation of the locomotive works of the constituent systems, and subsequently supervised their co-ordinated working. He was appointed Chief Mechanical Engineer in 1937. On the retirement of Mr. W. H. Morton in 1941 he became Acting General Manager; and in 1942 he was appointed General Manager. He became General Manager of the Irish Transport Company when it was formed and took over the undertakings of the Great Southern Railways Company and the Dublin United Transport Co. Ltd. as from January 1, 1945. Mr. Bredin was the designer of the three-cylinder express locomotives of the "Maeve" class. He retired from the General Managership of Córas Iompair in 1946, but, at the re-



The late Mr. Edgar C. Bredin

General Manager, Córas Iompair Eireann, 1945-46

Mr. H. G. Clark

Appointed Secretary, Peruvian Corporation Limited

Mr. W. H. Hall

Appointed Assistant Secretary, Peruvian Corporation Limited

Mr. A. S. Clegg

Appointed Stores Manager, Peruvian Corporation Limited

quest of the board, he remained for some time at the disposal of the company in a consultative capacity. The funeral took place on August 5 at Dean's Grange Cemetery, County Dublin.

Mr. H. G. Clark, Assistant Secretary, Peruvian Corporation Limited, who, as recorded in our July 7 issue, has been appointed Secretary, began his railway career in 1910 with the L.N.W.R. After a period at Euston Station in the departments of the General Manager and Superintendent of the Line, he served with the Royal Engineers (Transportation) in France from 1915 to 1919. Mr. Clark joined the Peruvian Corporation in 1920 and was appointed Stores Manager in 1925. From 1939 to 1945 he was with the Royal Engineers (Transportation), first at No. 2 Railway Training Centre at Derby, and subsequently in a staff appointment in the War Office. Mr. Clarke was appointed Assistant Secretary to the Peruvian Corporation in 1946, when he visited the company's properties in Peru. He is a Member of the Institute of Export.

Mr. T. R. Hall, Assistant to Motive Power Superintendent (Mechanical), British Railways, Western Region, has been appointed District Motive Power Superintendent, Cardiff, in succession to Mr. S. E. Tyrwhitt, who has retired.

London Transport Executive has announced that Mr. G. J. Dickins, A.M.Inst.T., previously Divisional Superintendent (North) (Trams & Trolleybuses), has been appointed Principal Development Assistant to the Development Officer.

We regret to record the death at Carrigacunna Castle, County Cork, Ireland, on July 29, at the age of 63, of Major R. H. B. Humphreys, who was Railway Transport Officer at Victoria Station during the greater part of the 1914-18 war.

Mr. A. J. Bird, of the London Midland Region Operating Headquarters at Euston, who has retired, was responsible for the timing, planning and arrangements for every Royal train journey on the L.M.S.R. and London Midland Region since 1934. During the recent war he arranged the journey of special trains for Field-Marshal Montgomery, General Eisenhower and Mr. Churchill.

Railway Mission to U.S.A.

The group of 87 railway officers from Western Europe, whose forthcoming visit to the United States, under the Marshall Plan, is the subject of an editorial note elsewhere in this issue, includes the following seven British representatives:—

Messrs. J. Ness, Chief Officer (New Works), Railway Executive; S. G. Hearn, Assistant Operating Superintendent, Western Region, British Railways; A. Dean, Chief Officer Engineering (Works), Railway Executive; K. J. Cook, Mechanical & Electrical Engineer, Western Region, British Railways; R. F. Harvey, Motive Power Superintendent, Scottish Region, British Railways; A. S. Robertson, Chief of Electric Traction Project Department, The English Electric Co. Ltd.; and W. H. Stonelake, The English Electric Co. Ltd.

Mr. W. H. Hall, Accountant, Peruvian Corporation Limited, who, as recorded in our July 21 issue, has been appointed Assistant Secretary, joined the Corporation in 1926 and was appointed Assistant Accountant in 1935. He joined the Royal Air Force in 1939 and served in the Middle East. Mr. Hall was appointed Accountant on returning to the Corporation in August, 1945.

Memorial Service for Lord Hacking

A memorial service for Lord Hacking, who was founder and until recently Chairman of the Travel Association, was held on August 3 at St. Margaret's, Westminster. Canon C. Smyth officiated. Among those present, in addition to family mourners, were:—

Sir Alexander Maxwell, Chairman, British Tourist & Holidays Board; Mr. J. G. Bridges, Director-General, Tourist Division; Sir Eustace Missenden, Chairman, Railway Executive; Messrs. Stanley Adams, Chairman, Thos. Cook & Son, Ltd.; R. H. Hacker, Chief Officer (Continental), Railway Executive; K. W. C. Grand, Chief Regional Officer, Western Region, British Railways; D. Blee, Member, Railway Executive.

Mr. Bryan Donkin, B.A.(Cantab.), M.I.E.E., has been appointed Chairman of the Executive Committee of the Engineers' Guild, and has relinquished the post of Honorary Treasurer. Mr. L. S. Atkinson, M.I.Mech.E., M.I.E.E., has been appointed Honorary Treasurer.

Mr. A. S. Clegg, who, as recorded in our July 21 issue, has been appointed Stores Manager of the Peruvian Corporation Limited, joined the Corporation in 1930. He was mobilised with the 92nd Feld Regiment, Royal Artillery (T.A.), in 1939, and went to France with the British Expeditionary Force. From 1941 to 1945 he served in the Middle East and Far East, and was release from active service with the rank of Major.

British Iron and Steel Research Association

The following changes have taken place in Council membership of the British Iron & Steel Research Association:—

Chairman: Mr. R. Mather (Skinningrove Iron Co. Ltd.), in succession to Sir Andrew McCance, F.R.S. (Colvilles Limited); *Retiring Members*: Messrs. E. W. Colbeck (Hadfields Limited), G. K. Rylands (Rylands Bros. Limited); C. Sykes, F.R.S. (T. Firth & J. Brown Limited), A. Williamson, C.B.E. (W. Beardmore & Co. Ltd.), N. F. Astbury (formerly Jos. Sankey & Sons Ltd.), A. Dorman (Dorman, Long & Co. Ltd.), Sir William T. Griffiths (the Mond Nickel Co. Ltd.), Mr. G. H. Johnson (Kettering Iron & Coal Co. Ltd.), Mr. J. Mitchell, C.B.E. (Stewarts and Lloyds Limited). *Elected Members*: Brigadier A. Levesley (Edgar Allen & Co. Ltd.), Messrs. D. A. Oliver (Wm. Jessop & Sons Ltd.), B. Chetwynd Talbot (South Durham Steel & Iron Co. Ltd.), C. R. Wheeler (Guest Keen Baldwins Iron & Steel Co. Ltd.), L. F. Wright (Gjers Mills & Co. Ltd.), N. P. Allen (National Physical Laboratory), T. P. Colclough (British Iron & Steel Federation), J. F. R. Jones (John Summers & Sons Ltd.), Professor R. J. Sarjant, O.B.E. (University of Sheffield).

Sir Andrew McCance has been elected President of the Association in succession to Mr. G. H. Latham (Whitehead Iron & Steel Co. Ltd.). Mr. J. Mitchell, C.B.E. (Stewarts and Lloyds Limited), was elected a Vice-President, and Professor J. H. Andrew (University of Sheffield), and Mr. F. H. Saniter (United Steel Companies Ltd.) were co-opted to the Council.

British Transport Commission Statistics (Period No. 6)

Summary of the principal statistics for the four-week period ending June 18

STAFF

—	B.T.C. Head Office	British Railways	London Transport	British * Road Services (Road Haulage)	Road Passenger (Provincial & Scottish)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Commercial Advertisement	Legal	Films	Total
Number ...	220	620,370	99,011	73,423	61,246	18,452	6,769	5,126	19,746	636	184	276	25	905,484
Inc. or dec.	+1	−1,236	−125	−96	+696	+477	+230	−22	−64	−4	+3	−1	—	−12

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

—	Four weeks (Period No. 6)		Aggregate for 24 weeks	
	To June 18, 1950	To June 18, 1949	1950	1949
	£000	£000	£000	£000
British Railways—				
Passengers	9,397	9,908	44,350	46,926
Parcels, etc., by passenger train...	2,435	2,343	13,253	12,994
Merchandise	6,735	6,168	37,965	37,930
Minerals	2,512	2,259	14,388	13,853
Coal & coke	6,135	5,282	33,915	32,000
Livestock	84	71	514	533
	27,298	26,031	144,385	144,236
British Railways—				
Delivery & other road services...	793	691	4,123	4,024
Ships and Vessels	948	910	3,810	3,711
London Transport—				
Railways	1,081	1,108	6,617	6,719
Buses & coaches	2,498	2,536	14,120	14,350
Trams & trolleybuses	828	867	4,909	5,059
	4,407	4,511	25,646	26,128
British Road Services—				
Freight charges, etc.	4,655	2,412	26,789	10,375
Road Passenger Transport	3,168	2,943	15,786	14,871
Docks, Harbours & Wharves ...	996	865	5,320	4,926
Inland Waterways	131	115	716	709
Hotels & Catering	1,153	1,050	6,320	5,845

LONDON TRANSPORT

—	Passenger journeys	Inc. or dec. per cent. over 1949	Car miles	Inc. or dec. per cent. over 1949
	000		000	
Railways...	47,811	−2·3	17,702	nil
Buses & coaches	217,726	nil	24,748	+0·9
Trams & trolleybuses	90,165	−3·5	8,533	−1·3
Total	355,702	−1·2	50,983	+0·2

INLAND WATERWAYS

Tonnage of traffic and ton-miles

—	Tonnage	Inc. or dec. per cent. over 1949	Ton miles	Inc. or dec. per cent. over 1949
	000		000	
Coal, coke, patent fuel & peat	451	+5·2	6,795	+10·3
Liquids in bulk	133	+3·0	3,398	+13·8
General merchandise	322	+2·3	5,481	+0·8
Total	906	+3·9	15,674	+7·5

BRITISH RAILWAYS

Rolling Stock Position

—	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1949
Locomotives	19,230	3,349	15,881	16,027
Coaching vehicles	57,238	4,564	52,674	51,185
Freight wagons...	1,101,684	93,272	1,008,412	1,039,939

BRITISH RAILWAYS

Passenger Journeys (Month of April, 1950)

Full fares	Monthly returns	Excursions, cheap day, etc.	Other descriptions	Workmen	Season tickets	Total	Inc. or dec. per cent. over 1949
4,309,000	15,498,000	15,790,000	3,921,000	16,935,000	26,703,000	83,156,000	−2·5

BRITISH RAILWAYS

Freight Tonnage Originating and Estimated Ton-Miles (Period No. 6)

—	Minerals	Merchandise	Coal & coke	Livestock	Total	Inc. or dec. per cent. over 1949
	000	000	000	000	000	
Tons originating ...	4,481	3,839	12,534	52	20,906	−1·5
Ton-miles	375,878	503,896*	754,915	—	1,634,689	−1·1

* Includes livestock

BRITISH RAILWAYS (Period No. 6)

—	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train-miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
	15,481,000	3,792,000	10,533,000	8·81	590	1,003,000	59·1
Inc. or dec. per cent. over 1949	−0·7	+3·7	+0·6	+1·8	+1·7	−3·3	−2·0

Ministry of Transport Accident Report

Littlehampton, Southern Region, British Railways: November 30, 1949

Brigadier C. A. Langley, Inspecting Officer of Railways, Ministry of Transport, inquired into the accident which occurred at about 8.19 a.m. on November 30, 1949, at Littlehampton, when the 8.4 electric train, Bognor Regis to London Bridge, entering No. 3 platform under clear signals at approximately 20 m.p.h., collided with the 8.18 a.m. electric train to Ford, which had left No. 2 platform against the starting signal at danger. There were about 20 passengers in the incoming and 150 to 200 in the outgoing train, but fortunately none was seriously hurt. Ten passengers and one railway servant were slightly injured. At the moment of impact the outgoing train had just been stopped, but the corner of the first coach was foul of the down line. The leading bogie was derailed and the corner of the motorman's cab driven in. The other train stopped 215 ft. past the point of collision and its first two coaches were derailed. The weather was fine and visibility good.

approaching he noticed the outgoing train leaving No. 2 platform. He was not alarmed, as he felt sure he had cleared the starting signal, although he could not see it from his position in the signal box, and even when he heard the brakes applied he thought the driver was stopping because of some station requirement and not for an emergency. The collision then occurred, and he checked his levers after replacing No. 2, and noticed for the first time that he had not pulled 27 and 30. He was surprised to see that No. 30 signal was off, remembering having seen it at danger after the 8.9 a.m. train left No. 1 platform, and both its motorman and guard confirmed him in that. (It was discovered later that a derailed wheel had driven the wire deep into the ballast and so pulled off the signal arm.)

The motorman and guard of the incoming train both saw the home signal off, and estimated the speed to be from 10 to 20 m.p.h. at the time of the collision.

noticed the incoming train appearing to be coming straight towards him and at once let go of the dead man's handle. Up to then he had not realised that a parallel movement into No. 3 line was possible. He took emergency action because he was travelling into the path of the other train, not because he passed the starting signal at danger.

The guard of this train was not a satisfactory witness. His recollection was hazy and his evidence contradictory. He at first said that after getting the signal from the barrier he walked across the platform and saw the starting signal was off, returned to his van (in the fourth coach) and gave "right away," watching the signal through his periscope. It was still off after the collision. Later he retracted this evidence and said that, in view of the statements made by other witnesses, he was now uncertain whether he walked across the platform and saw the signal, nor could he be sure whether he saw it at danger when

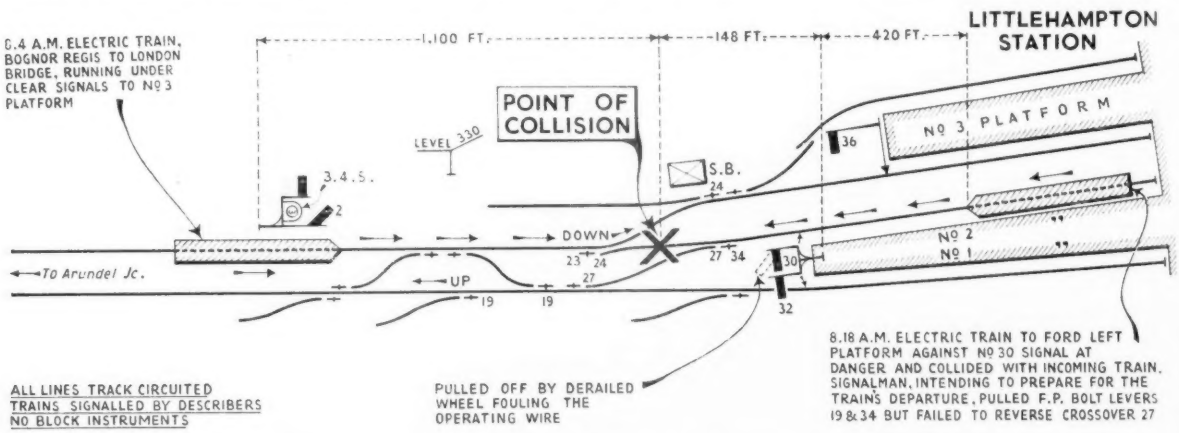

8.4 A.M. ELECTRIC TRAIN, BOGNOR REGIS TO LONDON BRIDGE, RUNNING UNDER CLEAR SIGNALS TO No 3 PLATFORM
1,100 FT.
148 FT.
420 FT.
LITTLEHAMPTON STATION
POINT OF COLLISION
LEVEL 330
3.4.S.
S.B.
No 3 PLATFORM
No 2
No 1
DOWN
UP
To Arundel Jc.
ALL LINES TRACK CIRCUITED
TRAINS SIGNALLED BY DESCRIBERS
NO BLOCK INSTRUMENTS
PULLED OFF BY DERAILED WHEEL FOULING THE OPERATING WIRE
8.18 A.M. ELECTRIC TRAIN TO FORD LEFT PLATFORM AGAINST No 30 SIGNAL AT DANGER AND COLLIDED WITH INCOMING TRAIN. SIGNALMAN, INTENDING TO PREPARE FOR THE TRAIN'S DEPARTURE, PULLED F.P. BOLT LEVERS 19 & 34 BUT FAILED TO REVERSE CROSSOVER 27

Diagram illustrating circumstances of collision at Littlehampton, November 30, 1949

The accompanying diagram shows the tracks, signals and other details involved in the accident. When a train is standing in No. 2 platform the view of the starting signal is obscured for the first 150 to 200 ft., depending on its length, but the signal can be seen from No. 1 platform or through the periscope in any of the brake compartments. The lines are fully track circuited and trains are described without any block working. Running signal levers, when reversed, are back-locked until the appropriate track circuits ahead are occupied. There is a key release for these back-locks. The 8.18 a.m. train was standing close to the buffers, with leading end 420 ft. in rear of the starting signal.

Evidence

The signalman said that a few minutes after the arrival of the train which formed the 8.18 a.m. out he began setting the road for its departure, and pulled 19 and 34 f.p. bolts, but failed to reverse crossover 27. He could not, therefore, work No. 30 lever, controlling the starting signal. At 8.17 a.m. the incoming train was described and he set up the parallel route into No. 3 platform and pulled the route indicator and home signal levers. As this train was

The fact that a train was leaving No. 2 platform made no impression on the motorman, as he often passed it at about the same place. He did not observe the condition of the starting signal, but after the accident he saw it was off.

The motorman of the 8.18 a.m. train had been in charge of it every alternate week for 19 months. He said he arrived as usual in No. 2 platform, stopping close to the buffers. He walked to the other end, and on the way saw the starting signal was off. He began talking to some children in the leading coach and heard a guard's whistle. On receipt of the "right away" he got back into his cab and started. He said he looked again at the starting signal, and it was still off. He was quite sure it was the one for his platform and not the adjacent one. On being questioned he thought he might not have seen the starting signal to be off until after fixing his head code, but he was emphatic that it was clear for him from the time he got out of the cab after doing that until he started. It was his usual practice to remain in the cab, but he got out on this occasion because the children had spoken to him. He had talked to them on several occasions.

When he passed the starting signal he looked through his periscope. Although uninjured, he suffered from shock and only had fleeting memories of what had occurred.

The station foreman saw the porter close the barrier and signal to the guard, who was outside his brake compartment near the middle of the train, and gave "right away" without crossing the platform. The foreman could not see the signal from where he was, but saw it off after the accident.

The signal lineman found lever No. 30 normal and that one of the wheels of the incoming train had fouled the signal wire; the strain had pulled the signal off and the arm returned to danger when he released the wire on the crank. He found everything in good condition only a week before.

Two inspectors found the route set through 24 crossover into No. 3 platform, but levers 27 and 30 normal, with bolt levers 19 and 34 reversed.

Inspecting Officer's Conclusion

There is no doubt that the incoming train was entering under clear signals, and its motorman is in no way to blame. Although the other motorman was emphatic in his declaration that the start-

ing signal was off, all material evidence points to its being at danger when he started. Seeing the signal off after the accident undoubtedly convinced him that it was so before it. Lever 30 was locked normal by 27 normal, and the signal arm could not have been off unless it failed to return to danger after the last operation; but it was seen at danger, not only by the signalman, but by the motorman and guard of the train which left at 8.9 a.m. The driving down of the wire into the ballast pulled off the arm, for it went to danger when released, and therefore had not been sticking.

It is conceivable that No. 1 platform starting signal No. 32 might have been left off after the 8.9 a.m. train, or have been pulled in mistake for the No. 2 line signal. There was no evidence to that effect, and the outgoing motorman himself said that signal was at danger. Had it been cleared by mistake it would have been back-locked until two track circuits in advance of crossover 27 had been occupied, although the signalman could have used his key to release it. Nothing in his evidence or manner suggested that he did so. Even had the No. 1 line starting signal been at clear, that was no excuse for the motorman to accept it, as the two starting signals are well separated and easily distinguished.

It would seem that the motorman, accustomed to talk to the children on his train, allowed his attention to become distracted, and, on receipt of the guard's signal, got in and started, looking back to check everything was correct, a natural action with so many children on the train. Probably he did not look forward until he was near the signal, when, seeing it at danger, he made the emergency brake application. A test showed that this would have stopped the train in the position in which it was actually found. Had he not braked until realising that he was running into the other train, instead of taking the crossover as he should have done, he might well have travelled 60 ft. or more beyond the signal before appreciating the position and could not have stopped where he did. Brigadier Langley concludes that he started irregularly, without observing the fixed signal, and must be held primarily responsible. He is 56, with 40 years' service, as motorman for 18 years, with a clear record.

Brigadier Langley is convinced that the guard did not cross the platform nor look through his periscope; had he done so he could not have failed to notice the signal at danger, and as his train travelled 420 ft. before reaching it he had ample time in which to apply the brakes. Rule 148A says that guards must keep a good look-out when leaving stations, an important duty which he failed to carry out. He must bear a share of the responsibility. He is 52, with 36 years' service, as passenger guard for 6½ years, with a clear record.

No doubt the signalman intended to set the route for the outgoing train, and his failure to complete the lever movements for doing that is difficult to understand.

Consideration has been given to changing the locking of No. 27 crossover so that the points at the platform end will lie normally for the up instead of for the down line. This alteration, though not providing a complete safeguard against collision, would have prevented the accident. The work is already scheduled to be carried out. It is not practicable to design a terminal station of three or more platforms so as to avoid all possibility of collision in the event of an over-run and at the same time give adequate operating facilities.

Strict observance of signals is the fundamental duty of all drivers and motormen, and on this not only safety but the whole system of railway operation must always depend. Unfortunately, a number of cases of trains starting against signals has shown that a few of these men have not maintained the high standard of discipline for which railwaymen are renowned. No doubt suitable steps have been taken to impress upon them the vital importance of concentrating on their work at all times and of not allowing themselves to be distracted.

Southampton Ocean Terminal

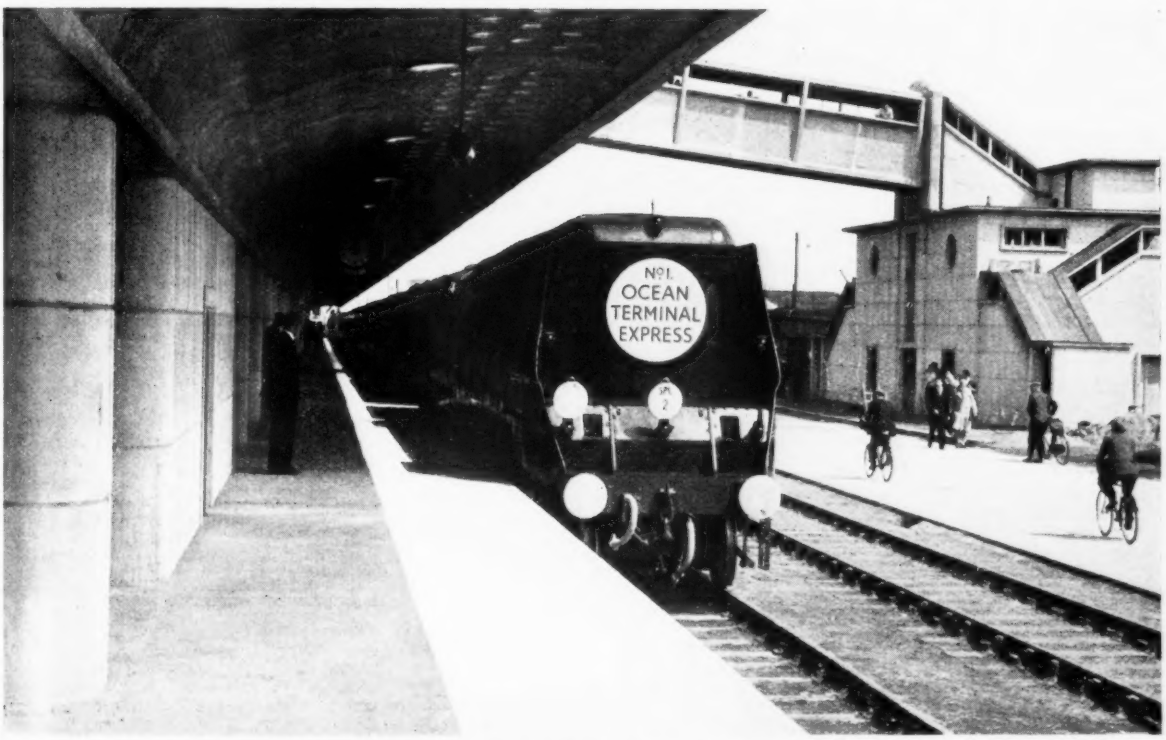
Evidence of time saving

As was recorded in our August 4 issue the new ocean passenger terminal of the Southern Region of British Railways at Southampton Docks was officially opened by the Prime Minister on July 31. This new building was constructed at an original estimated cost of £750,000 and it is 1,272 ft. in length and 111 ft. wide.

When we described the terminal last week emphasis was placed on the great advantages of being able to deal with all the formalities connected with arrival and departure under one roof. Diagrams and photographs showed the layout of the building. This issue includes on pages 157 and 158 illustrations of the lounges and baggage rooms.

Widespread interest in the terminal has been aroused on both sides of the Atlantic, and on the opening day, Mr. R. P. Biddle, Docks & Marine Manager, Southern Region, received the following cablegram from Mr. T. D. Slattery, General Traffic Manager, British Railways, New York City:—

"From atop of Empire State Building, New York City, gathered round the model of the new Ocean Terminal, Southampton, an assembly headed by the British Consul-General and representatives of the City



Arrival of boat express at cabin class platform of the new Southampton Ocean Terminal

Photo] [*Sam Lambert*

and Port of New York, Transatlantic Steamship Lines, American Railroads and Travel industry, British organisations including the Travel Association and Commonwealth Chamber of Commerce and representatives of the American and British Press, join with the British Railway Organisation in North America in congratulating the British Railways on this outstanding achievement. Long may this great terminal, which the Prime Minister of Great Britain has just opened, serve as yet another link, binding the freedom-loving people of the old world and the new."

The terminal had its first real test on August 3 when the liner *Queen Mary* docked with about 1,000 passengers from the U.S.A. Within a record time of an hour and a half of the gangway being in position, thanks to the co-operation of the Customs officers and dock workers as well as to the modern methods of dealing with passengers and baggage, the first train steamed out of the terminal for Waterloo and all three boat trains left early. Customs clearance was the fastest on record.

Dorada Railway Company

In his statement circulated with the accounts of the Dorada Railway Co. Ltd. for the year ended December 31, 1949, Mr. Robert Adeane, Chairman, said that business conditions in Columbia were unfavourable practically throughout 1949, due principally to the tense political situation which was not relieved until the Presidential election in November when there was a change of Government. Despite the unfavourable atmosphere and in face of fierce competition they were able to increase both passenger and goods figures; but the improvement in the revenue was outweighed by a sharp rise in the expenditure, due largely to increases in fuel-oil prices and the constant upward movement of wages and social law payments.

The labour situation, one of their major problems, remained complex and delicate. To meet the further rise in the cost of living the Colombian Government in December last decreed a general increase in all wages varying from 6 to 15 per cent. They were compelled to raise their rates once more to offset this new expense. The yearly payments under the Colombian social laws were a heavy burden against revenue, the cost of these, at par of exchange, having risen from £7,000 in 1940 to no less than £48,000 in the year under review.

The results for the early months of 1950 showed an improvement over the corresponding period of 1949. This improvement, however, was in part due to acute traffic congestion on the Pacific route and landslides on a competing railway, and they did not expect to maintain such profits over the rest of the year. The Atlantic trade route was at all times dependent on the condition of the Magdalena River and any real drought inevitably diverted traffic to competitors. With reasonable political stability and no heavy wage or social service increases the results for 1950 should equal or exceed those of 1949.

The Ropeway branch results for 1949, which were much the same as in 1948, were very poor. There was an increase in practically all commodities and this increase would have been even greater but for lack of importation cargo as a result of Government restrictions. Unfortunately the improvement in revenue was more than offset by the greater cost of fuel oil and higher taxation and wages.

British Electric Traction Co. Ltd.

Effects of the petrol and fuel oil tax on operating costs

The fifty-fourth annual general meeting of the British Electric Traction Co. Ltd. was held on July 27 at Winchester House, Old Broad Street, London, E.C.2, Mr. H. C. Drayton, the Chairman, presiding.

In the course of his remarks, the Chairman said:—

The consolidated net profit of the group, after providing for taxation, amounts to £1,350,000, as against £1,177,000 last year. After deducting the proportion of profits attributable to minority shareholders, we are left with a figure of net profit attributable to this company of £1,172,000, as against £991,000 last year. You will appreciate that these figures are after deduction of taxation. If you endorse the directors' recommendation that dividends be paid of 8 per cent. on the cumulative preference stock, 8 per cent. on the preferred ordinary stock, 15 per cent. interim on £790,000 deferred ordinary stock, a 17½ per cent. final on the old deferred stock, and 17½ per cent. on the "A" deferred stock, there is a balance over of £789,000; £534,500 is added to the carry-forwards and revenue reserves of the subsidiary companies, and £254,000 to this company's undivided profits account. This makes undistributed profits in the group as shown in the consolidated balance sheet £4,534,000—made up as to £2,544,000 in this company and £1,990,000 in the subsidiary companies—a figure which I think you will agree is impressive.

Our road passenger business, as I have told you before, has had to meet increased costs in the last few years, but up to the present we have always managed, by and large, to cover these costs without charging the public increased fares. However, a new position has now arisen. In the last Budget there was 9d. a gallon extra duty put upon petrol and fuel oil. It is strange that five years after a major war, when we were hoping Government expenditure would decrease, the Government should find it necessary, for the purpose of raising revenue, to increase taxation on what is the working man's motor-car. I am afraid that in some cases we shall have to reorganise our services to meet this increased cost.

Our men have recently put forward a request for 3d. an hour increase in their wages, which under the terms of our agreement with them goes to arbitration. With the above extra 9d. a gallon duty, any further increase in our costs will mean that we shall not be able to make the proud boast that we have not raised our fares over a very long period. In other words, any further costs will have to be borne in one form or another by the public.

Increased Running Costs

It may interest you to know that the takings of our bus companies in 1945 totalled £22,400,000, and our platform staff wages costs—that is, drivers and conductors—totalled £5,770,000. In 1949 the takings had gone up to £33,400,000 and the platform wages had risen to £12,080,000; in the one case an increase of 50 per cent. and in the other an increase of approximately 109 per cent. You will appreciate that these figures do not take into account the increased cost of fuel, tyres, maintenance, etc., which have risen considerably in the same period.

If we have to increase the cost of our transport, it is the artisan who will suffer most, as he uses the omnibuses for getting to and from his work, his wife uses them for shopping, and they both use them for holidays and pleasure.

The most important aspect of this extra 9d. per gallon taxation on petrol and fuel oil is that owing to the high part transport plays in the cost of raw materials and finished products, it will increase the costs and to that extent lessen our competitive power in the export markets. This extra cost is caused not only by the increase in charges for haulage of goods, but also by increases in passenger fares. In other words, it starts once more a vicious circle, as the men who use the buses will want more wages, thus increasing the cost of production still further, as the cost of travel today to and from work is of concern to the wage earner.

We have adopted over the past years the policy of broadening the basis of our business. That includes our general investments, which now have a valuation of over £8,500,000 and which, together with the conservative dividend policy which we have followed, will have a stabilising effect on our revenue and dividend and in my view should allow us to look forward to the future with quiet confidence.

Staff & Labour Matters

Railway Wage Claims

The separate wage claims submitted to the Railway Executive by the R.C.A. and the A.S.L.E.F. were discussed at meetings on August 4 between representatives of the unions concerned and of the Railways Staff Conference. After either meeting an agreed statement was issued that the meeting had been adjourned to enable the Railway Executive to consider the application.

The Railway Staff National Tribunal on August 9 heard the N.U.R. claim for a pay increase for lower-paid railwaymen. The tribunal decision is expected shortly.

Engineers' Pay Dispute

The committee set up as the result of discussions with the Minister of Labour, and representative of the Engineering & Allied Employers' National Federation and the C.S.E.U., last week began informal talks on the possibility of reopening direct negotiations on wages. Some progress is reported, and further meetings are being held.

ASSOCIATION OF CONSULTING ENGINEERS.—The report for the year ended April 30, 1950, of the Association of Consulting Engineers, records a rise in membership from 278, in April 1949 ,to 303. A small special committee has continued to represent the views of the Association to the Joint Standing Committee which is working on revision of general conditions of contract. The negotiations with Government Departments regarding fees payable to consulting engineers were recently still in progress. Other activities durnig the year included *ad hoc* committees on conditions of contract for electrical and mechanical works and on the constitution of the British Standards Institution, the findings of which were communicated to the Institution of Electrical Engineers and the Board of Trade respectively.

Questions in Parliament

Schoolchildren's Fares

Major E. McNeill Cooper-Key (Hastings—C.) on July 27 asked the Minister of Education whether he would approach the British Transport Commission with a view to cheaper fares for children up to 15 years now that the school leaving age had been raised.

Mr. George Tomlinson (Minister of Education), in a written answer stated: Arrangements already exist for children of compulsory school age to make journeys to and from school at half fares on the railways and B.T.C. road services; I understand that concessions are also allowed for school journeys and educational visits.

Transport Consultative Committee

Major Peter Roberts (Sheffield, Heeley—Nat. Lib.) on July 27 asked the Minister of Transport whether he would receive a deputation from the Sheffield and other chambers of commerce to discuss the establishment of a South Yorkshire-North East Derbyshire Area, centred on Sheffield, for the purposes of section 6 of the Transport Act, 1947.

Mr. Alfred Barnes stated in a written answer: These chambers of commerce have already put before me their views that a Transport Users' Consultative Committee should be set up for the South Yorkshire-North East Derbyshire Area. I do not consider that any further purpose would be served by my receiving a deputation.

Parliamentary Notes

Railway Houses

Mr. N. F. Yates (Birmingham, Ladywood—Lab.) on the motion for the adjournment of the House of Commons on July 27 drew attention to the widespread anxiety among families living in houses under the control of the B.T.C. who, for reasons beyond their control such as bereavement or retirement, were under the shadow of eviction. The problem, he said, was not new. Before nationalisation, he had made a strong appeal to the railway companies not to evict families, because of the grave housing problem in Birmingham. Unfortunately a number of families were evicted; but it was his hope that with the creation of a nationalised industry there would be a more moral approach to the problem, rather than a legal one.

After citing some instances of eviction, Mr. Yates appealed to the Minister of Transport to bring about some administrative action which would alleviate the suffering and the anxiety of many families.

After other members had quoted similar instances of hardship, Mr. G. B. Drayson (Skipton—C.) said he had had a letter from the Railway Executive regretting the action which they had to take in connection with one of his constituents, and asking him if he, as a local Member of Parliament, could use his influence with the local authority so as to see that more houses were made available for railway workers.

He asked the Minister of Transport what building plans he had to increase the number of houses available, and what approach had he made to the appropriate Government Department to ask permission for the nationalised railways to build more houses for railway workers. It should be quite unnecessary for the Railway Executive to ask an M.P. to use his influence; that sort of thing did not happen before the railways were nationalised, because then there had been plenty of houses.

Mr. Alfred Barnes said that Members were asking him to do something which he had no power to do. In a matter of that kind the Minister had no power to intervene. He could not go to the Railway Executive and say that they should not take advantage of the law.

In reply to the suggestion that the Railway Executive should build more houses, Mr. Barnes pointed out that the Executive received no Exchequer grant; it was not a case of their being rate-aided. The four main line railway companies had built 52,000 houses to meet the needs of railwaymen who had to be shifted about, who were liable to be called upon to carry out their duties under all circumstances, and who were performing a vital national service.

Of those 52,000 houses which the Transport Commission had inherited 21,000 were occupied by protected tenants under the Rent Restriction Acts. As to the rest, when tenants took possession of those properties they themselves were dispossessing others; they took the properties on those conditions. Then the railway operators were faced with the problems of promotion transfers. That was not a case of the Railway Executive trying to turn people out for profit; it was one of meeting two forms of pressure: from its own staff, who wanted to be promoted or had to be shifted about the country, and from staff who were confronted with the problem of maintaining two homes.

Their own staff needed possession of the Executive houses, and it had sometimes come to the point that they must resort to the provisions which Parliament had given enabling the courts to decide. In every case quoted the period of tenancy had been extended with a view to some other solution. The Railway Executive was fully aware of the feelings of Members of the House, and was doing its best to solve those problems.

Notes and News

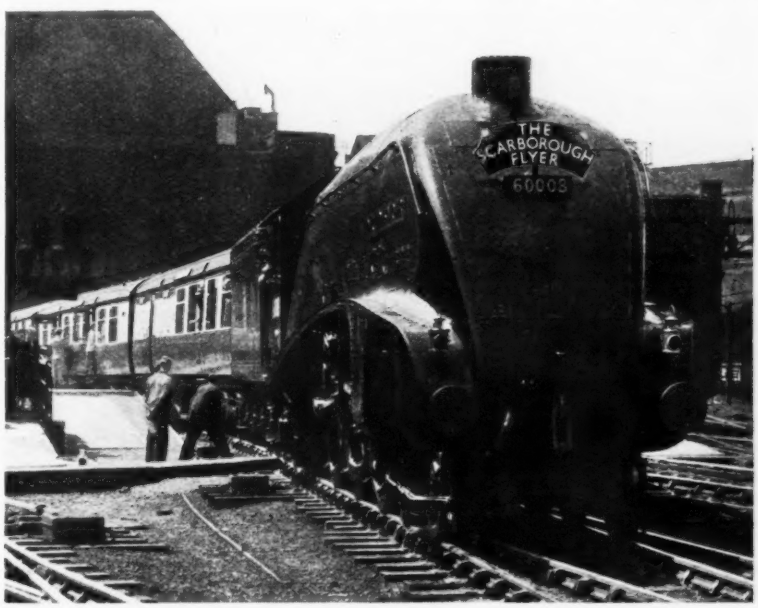
District Storage Assistants.—Applications are invited by the Road Haulage Executive for four posts of district stores assistant at the district offices in London of the South Eastern Division. See Official Notices on page 167.

Assistant to Transport Manager Required.—A manufacturing company in Chiswick has a vacancy for an assistant to the transport manager. A knowledge of railway rating and law is required. See Official Notices on page 167.

Morgan Crucible Co. Ltd.—The group profits of the Morgan Crucible Co. Ltd., for the year ended March 31 last, were £543,748 compared with £650,987 in the previous year, after which U.K. tax of £558,712 (£513,274) and foreign tax of £32,586 (£30,848) had been deducted. A final ordinary dividend of 8½ per cent. was paid and this makes 12½ per cent. for the year.

Day Excursions to the Continent.—A deputation from the Tourist & Resorts Committee of the House of Commons, consisting of the Members for Brighton Pavilion, Yarmouth, Southend East, and Lowestoft, last week discussed with the Financial Secretary to the Treasury, Mr. Douglas Jay, the resumption of day trips to the Continent without passports. Mr. Jay said that, if the international situation permitted, he hoped it would be possible to arrange for such trips to be made next summer from certain sea and air ports.

New Engine Headboard for the "Scarborough Flyer." — The "Scarborough Flyer," running between Kings Cross and Scarborough, on the Eastern and North Eastern Regions, which was re-introduced in the British Railways summer timetable on June 5, 1950, has been fitted with new locomotive headboards with radiant sun emblems in each top corner, as an indication to travellers of the conditions they are likely to meet on arrival on the East Coast. The illustration below shows the "Scar-



Engine with new design of headboard ready to leave Kings Cross with the "Scarborough Flyer" (see paragraph above)

borough Flier" with the locomotive bearing one of the new boards, about to leave Kings Cross.

Nitrate Railways Company.—At a meeting of the Nitrate Railways Co. Ltd. to be held on August 25, proposals will be considered for a reduction in the capital from £3,430,000 to £2,560,760. The ordinary and preferred converted ordinary shares of £10 are to be reduced to £7 each by repaying £3 a share to holders.

Liverpool Tunnel Mishap.—The engine of the Liverpool Riverside to Euston boat train conveying passengers from the Cunard liner *Britannic*, with a load of eight bogie vehicles, broke down in Waterloo Tunnel between Riverside and Edge Hill on August 4; after three hours' delay the train was hauled out of the tunnel by four other engines. Delay was also caused to a following boat train, carrying passengers from the Canadian Pacific liner *Empress of France*.

Model Engineer Exhibition.—The twenty-fifth Model Engineer Exhibition opened at the New Horticultural Hall, London, S.W.1, on August 9. The exhibition is open on weekdays, from 11 a.m. to 9 p.m., until August 19. A demonstration area, where a variety of forms of model construction are taking place, has been introduced this year and the greater part of the work undertaken is of a type which can be carried out on a kitchen table. The Society of Model & Experimental Engineers is operating a passenger-carrying railway on which all locomotives burn steam coal. As in the past, the exhibition includes a variety of trade stands and some fine entries in the model-builders' competition section. Among the Class A locomotive exhibits, there are many outstanding models which include a 2-in. scale L.B.S.C.R. Mogul by Colonel L. Billinton; 5-in. gauge $1\frac{1}{16}$-in. scale G.W.R. pannier tank engine; $3\frac{1}{2}$-in. gauge working model L.N.E.R. 2-8-0 + 0-8-2 Beyer-Garratt; and a $2\frac{1}{2}$-in. gauge G.W.R. "Bulldog" 4-4-0. In the railway rolling stock and accessories section Mr. P. B. Denny is exhibiting an "00" gauge 4-mm.-scale Gawcott Halt on a Buckingham branch line, and among various interesting locomotive exhibits is an "00"-gauge 4-mm. scale L.S.W.R. 4-4-2 tank engine.

Richard Thomas & Baldwins Ltd.—Mr. E. H. Lever, Chairman, presiding at the annual general meeting of Richard Thomas & Baldwins Ltd., when payment of a final dividend of 10 per cent., less income tax, making 15 per cent. for the year, was approved, said that Sir John James, the Deputy Chairman, was retiring from the board to devote more time to the Lancashire Steel Corporation, of which he is Chairman.

Liverpool Overhead Traffics.—There were decreases compared with last year in traffics of the Liverpool Overhead Railway in each of the five weeks ended July 30. The smallest decrease was in the week ended July 16, when receipts, at £2,721 were £24 below those of the same week in 1949. The largest decrease, £477, occurred in the week ended July 30, when receipts totalled £2,666. Aggregate receipts for the current 30 weeks are £76,086, £6,506 less than in 1949.

Closing of Ballycastle Railway.—The 3-ft. gauge Ballymoney to Ballycastle branch of the Ulster Transport Authority (formerly L.M.S.R., Northern Counties Committee) was closed to all traffic on July 2. The line, 16 miles long, comprised the former Ballycastle Railway Company system; it was opened in October, 1880, and closed in April, 1924, after which it was taken over by the L.M.S.R. and re-opened in August of that year. Rolling stock recently consisted of two steam locomotives, six passenger coaches (all vestibuled), and some 60 wagons. The whole line was worked as one section by staff and ticket, two intermediate crossing loops having been removed many years ago. Ballycastle and Ballymoney stations were signalled in normal fashion, but there were no signals at any intermediate station, all siding connections being controlled by train staff.

Aluminium Castings Co. Ltd.—After allowing £12,937 for tax the Aluminium Castings Co. Ltd. had a group profit of £12,780 for the year ended March 31 last compared with a loss of £15,103 in the previous year. As last year no dividends are to be paid on the preferred ordinary and ordinary shares.

Increase in Air Traffic.—Provisional figures issued by the Ministry of Civil Aviation show that during the financial year 1949-50 the British airways corporations carried approximately 26 per cent. more passengers and 20 per cent. more freight and mail than during the preceding year. Between them, B.O.A.C. and B.E.A. flew about 900,000 passengers, 10,300 tons of freight, and 5,500 tons of mail. During the first three months of 1950 the two corporations and associates carried 170,000 passengers or 40 per cent. more than in the first quarter of 1949.

American Car & Foundry Company.—Consolidated net sales of the American Car & Foundry Company for the year ended April 30 last amounted to $147,470,154 compared with $219,648,483 in the previous year. Net earnings were $436,193 as against $4,932,114 in 1949. In the annual

Freight Traffic in the Port of Sydney

South end of Darling Harbour Goods Station, Sydney

OFFICIAL NOTICES

LARGE Manufacturing Company situated in Chiswick area requires Assistant to Transport Manager, with knowledge of Railway Classification, Rates, Conditions of Carriage and Law. Advertisers run a fleet of vehicles under "C" licence and therefore knowledge of road transport advantageous. State qualifications, age, and salary required to "L.M.C.," c/o Dixons, 1-9, Hills Place, Oxford Street, London, W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. Price 20*s*. By post 20*s*. 6*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

GLOSSARY OF WOOD. A technical dictionary for all associated with timber and its uses. Ten thousand terms about timber—the common and the little known, the old and the new. Ten thousand definitions covering the entire field of timber and its uses—growth, marketing, utilisation. The commercial timbers, their qualities and uses, tools and woodworking equipment, are all here explained simply, concisely and accurately. Illustrated by many clear line drawings. Price 21*s*. net. Bypost 21*s*. 9*d*. Tothill Press Limited, 33, Tothill Street, London, S.W.1.

THE Road Haulage Executive invite applications for four posts of District Stores Assistant at the district offices in London of their South Eastern Division. Applicants must have extensive storekeeping experience involving the control and maintenance of stocks held at central and subsidiary storehouses, preferably in the Road Transport Industry, organising ability, and a knowledge of purchasing methods applicable to a large undertaking. Salary within the provisional range £650-£700 per annum. Applications in duplicate, in envelopes marked S.V.64, giving date of birth, qualifications, experience, present post and salary, together with any other relevant information, including the names of two referees, should reach the Divisional Manager, South Eastern Division, Road Haulage Executive, 238, City Road, London, E.C.1, not later than August 21, 1950. Successful applicants will, if eligible, be expected to join a contributory superannuation scheme, and, in this respect, to comply with whatever provisions are decided upon later for the staff of the Executive as a whole.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth. 8*s*. By post 8*s*. 6*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SITUATION VACANT.—District Traffic Superintendent. Salary £1,000 per annum. Knowledge of Spanish essential. Apply to Secretary, THE PERUVIAN CORPORATION LIMITED, 144, Leadenhall Street, London, E.C.3.

RAILWAY enthusiast with wide knowledge, not specialised, of railway affairs, age 37, Oxford degree with Maths, seeks employment anywhere. Overseas experience, but not with railways. Immigration considered. Has had letters published in *R.G.* correspondence columns.—Reply Box 808, c/o *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8¼ in. by 5¼ in. 82 pp. Diagrams. 5*s*. By post 5*s*. 3*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2*s*. Post free 2*s*. 3*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

report Mr. C. J. Hardy, Chairman, says that the company has accomplished much in the diversification of its business, and its financial condition is assured. Among their enterprises, a "Talgo Train," developed in association with the Spanish firm of Patentes Talgo, had, after several months of trial runs, been placed in regular passenger service on the run between Madrid and Irun, and a number of inquiries concerning the train had been received from railways in various parts of the world.

Park Royal Agreement with Argentine Firm.—Park Royal Vehicles Limited has concluded an agreement with the Compania Argentina de Talleres Industriales, Transportes y Anescos, S.A., Buenos Aires, whereby the latter firm will manufacture bodies of Park Royal design. This South American organisation has a large and well-equipped factory and has had experience in the building of both buses and railway rolling stock.

Commemoration Ceremony in Paris.—In connection with the celebration of the 50th anniversary of the Paris Metropolitan Railway a wreath of roses brought from London was laid on the tomb of the Unknown Soldier at the Arc de Triomphe as a tribute from Lord Latham and the London Transport Executive. Those present at the anniversary in addition to Lord Latham included General Koenig, Military Governor of Paris; M. Georges Ricroch, President of the Régie Autonome des Transports Parisiens, and M. Ithier, President of the International Union of Railways. The wreath bore the inscription:—

Gloire à notre France éternelle
Gloire à ceux qui sont morts pour elle.
(A tribute from Lord Latham and the Members and Staff of the London Transport Executive, June, 1950.)

Iron Ore Discharging Plant at Tyne Dock.—The Consett Iron Co. Ltd. and the Tyne Improvement Commission announce the conclusion of negotiations as a result of which increasing requirements of foreign ores will continue to be imported at Tyne Dock for a number of years. It is anticipated that the additional quantity will eventually be in the region of 1,000,000 tons a year. The cost of the project, which will include an extension to the Sunderland Quay to berth vessels of up to 20,000 tons, is estimated at £1,000,000. British Railways are co-operating in the general scheme and are providing trains of specially designed wagons to be operated on a fast shuttle service between Tyne Dock and Consett. An ore gantry is being constructed to receive the loaded trains which will be unloaded and sent on their return journey in a matter of minutes.

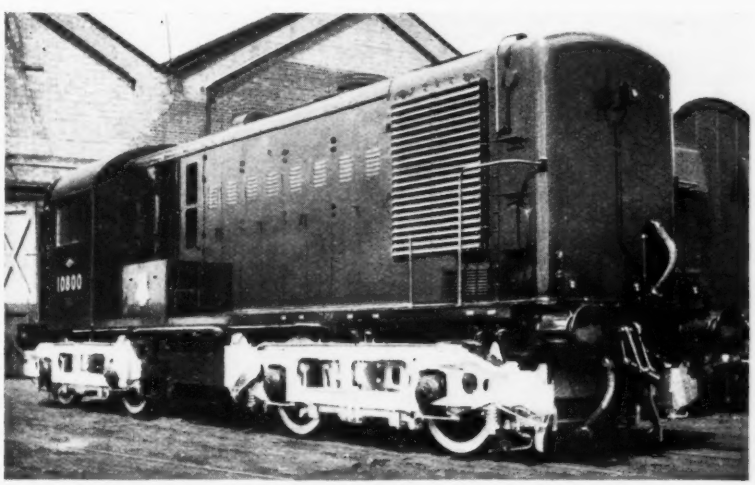
Airline Service Withdrawn.—Because the demand has been insufficient, the Lancashire Aircraft Corporation has suspended the daily return service which it has been operating during the last four months from London (Northolt) to Exeter, Plymouth, and Barnstaple.

C.I.E. Deficit.—For the five months ended June 1, 1950 (when, as recorded in our June 9 issue, the former Coras Iompair Eireann undertaking was nationalised and the Grand Canal Company absorbed), C.I.E. showed a loss of £746,854. Buses returned a profit of £135,933, but the railways lost £561,900, the road freight department £19,519, and the company's hotels £24,179—a net deficit of £469,665. Miscellaneous receipts were £6,115. After adding to the loss £157,794 debenture interest, £39,016 guaranteed and other interest dividends, £75,000 pension trust fund transfers, and £11,494 other expenditure, the debit balance of £3,081,975 from 1949 increased the company's total loss at the time it went out of existence, to £3,828,829. A non-repayable grant of £1,267,000, voted by the Dail in November, 1949, reduced the net loss to £2,561,829.

Silentbloc Limited.—A final dividend of 4d. a 2*s*. share is recommended by the directors of Silentbloc Limited for the year ended May 31, 1950, making a total dividend of 7d. per share. The consolidated net profit was £104,128 compared with £66,323 for the previous year, less taxation of £59,823.

Hunslet Tank Locomotives for India.—Six 65-ton 0-6-2 tank engines have just been shipped by the Hunslet Engine Co. Ltd.

Diesel Locomotive for Branch and Freight Traffic



The new London Midland Region 800-*h.p. diesel-electric locomotive No.* 10800

Photo] [*L. Beard*

to the Calcutta Port Commissioners for handling freight trains up to 1,200 tons in weight over the dock lines. They have two outside 16-in. by 24-in. cylinders driving the third pair of 3-ft. 10-in. coupled wheels, and with a boiler pressure of 210 lb. per sq. in., exert a tractive force of 23,800 lb. Adhesion weight in full working order is 49¼ tons. The non-superheater boiler has an evaporative surface of 1,030 sq. ft. and a grate area of 18 sq. ft. Side and rear tanks carry a total of 2,000 gal. of water and the bunker holds 2½ tons of coal. Six further locomotives of the same design are under construction at the Hunslet works for delivery next year.

South Wales Bus Fares Dispute.—The Ministry of Labour has appointed a committee to inquire into the dispute which has arisen among South Wales miners over an increase in bus fares in the Rhondda Valley area. A strike of all South Wales miners has been threatened for August 14.

August Bank Holiday Trains.—During the August Bank Holiday period British Railways ran a large number of relief services in all Regions, except the Scottish. Extra trains run were as follows:—877 in the London Midland Region; 260, Western Region; 350, Southern Region; 369, Eastern Region; and 256, North Eastern Region. In the London Midland Region the number of extra trains run was a post-war record and was over 120 more than for the 1949 August Bank Holiday.

Canadian Railway Workers to Strike.—The International Railway Brotherhoods, meeting in Montreal, have voted almost unanimously in favour of a strike in persuance of their demands for higher pay. The strike is timed to begin on August 22. The Brotherhoods of Railway Employees and of Express Employees, representing 35,000 workers, have already voted in favour of a strike, but awaited the decision of the international unions before fixing the date. The Brotherhoods' demands were rejected on April 15 by conciliation boards which recommended a 44-hour week and a wage increase averaging 6·8 per cent. Talks between the railways and the men are continuing.

Tilling-Stevens Limited.—Shareholders of Tilling-Stevens Limited, whose results were given in our July 14 issue, will be asked to confirm a provisional agreement with Commer Cars Limited, the commercial vehicle division of the Rootes group, providing that the ordinary stock of the company be converted into 5 per cent. cumulative preference shares. The dividend on these shares for two years from August 1 will be guaranteed by Commer Cars. In consideration of this conversion Commer Cars are to pay 1s. in cash for each 1s. ordinary stock unit held. In addition, Commer Cars will subscribe for 1,000,000 of the unissued ordinary shares of 1s. each at par. It is proposed to maintain Tilling-Stevens Limited as a separate entity with additional directors.

Forthcoming Meetings

Until August 19 (*Sat.*).—The Model Engineer Exhibition, at New Horticultural Hall, Vincent Square, London, S.W.1.

August 24 (*Thu.*) to 28 (*Mon.*).—Railway Students' Association, London School of Economics & Political Science. Annual Convention at Lenton Firs Hall of Residence, Nottingham.

Railway Stock Market

The City feels that higher taxation of some kind is in prospect, though not perhaps until next April. The Government's rearmament plans assume that a larger volume of dollars will be made available by the U.S.A. to the U.K., so that rearmament will not involve another financial crisis arising from dollar shortages.

British Funds have further improved, helped by the success of the Sierra Leone offer and talk that more colonial loans are impending. Industrials were better on the assumption that there may be no early increase in taxation; in some quarters however, there have been fears that, when fresh taxation is imposed, it might include an increase in Profits Tax or possibly a revival of E.P.T.

Foreign Rails were rather more active, with United of Havana stocks prominent on revived talk that a fresh bid for the line might be impending. The 1906 debentures have advanced sharply to 18¾ at the time of going to press, while the 4¼ per cent. Western debentures were 21. Canadian Pacifics receded to $30\frac{3}{8}$ on the rail strike threat, although the good yield brought in buyers for the preference stock which improved to £65. American buying was again said to be the influence behind improvement in Mexican stocks. National of Mexico 4½ per cent. non-assented were up to $27\frac{3}{4}$, the 4 per cents. $25\frac{3}{4}$ and the two-year notes $26, while the Plan "A" and "B" issues also improved. Mexican Central "A" bearer stock rose sharply to 35 and the registered stock to 31. Antofagasta preference at 42 made further response to the dividend arrears payment; the ordinary stock improved to 6¼.

Great Western of Brazil shares at 150s. strengthened after their recent reaction, a total pay-out of at least 155s., and possibly over 160s., being considered probable. In the circumstances, there is little point in existing holders' selling; in fact, brokers are advising them to hold on until the pay-out is made. On the other hand, bearing in mind the expenses of a purchase, fresh buyers are unlikely to come in at this stage.

Leopoldina stocks have been firmer generally with the ordinary and preference at 9⅞ and 24¾ respectively, the 4 per cent. debentures 93½, but the 6½ per cent. debentures eased to 132. Leopoldina 5 per cent. debentures were steady at 86 with the ordinary units at 1s. 3d. Manila "A" debentures turned easier at 63 with the preference shares 6s. 6d. San Paulo 10s. ordinary kept steady at 15s. and Brazil Rail gold bonds were 38½. Nitrate Rails were again 72s. 6d.

Shares of road transport and allied companies were generally steady, although B.E.T. deferred stock, after easing, recovered to 435. West Riding strengthened to 60s. 6d., Southdown were 112s. 6d. and Lancashire Transport 77s. 6d. East Kent 6½ per cent. preference marked 24s. 6d. Road Transport shares remain very firmly held and buyers often find they are not available in the market only in small amounts.

The general assumption is that despite higher costs which must be expected to be reflected in profits to some extent, dividends generally are likely to be maintained. It is believed in the City that should there be any further take-over of road transport companies this year, shareholders would in all probability receive at least the current market price for their shares.

Iron and steels were again active together with other armament and kindred shares, in which machine tool issues have participated to some extent. There are now widespread hopes that rearmament will mean that the final nationalisation decision may be postponed until 1952. On the other hand, it is not always realised that steel companies scheduled for nationalisation are precluded by the Steel Act from increasing their dividends. Nevertheless, in most cases yields are attractive, at current prices. Rearmament means that many steel companies will have to press on with development and expansion plans, and more capital may become a matter of urgency. In any new issues the new John Summers debentures are likely to be taken as a model, namely, a 4 per cent. stock issued slightly under par with rights of redemption at par in the event of nationalisation. United Steel have changed hands around 28s. 3d., Dorman Long further improved to 32s. 3d., John Summers to 31s. 3d. and Firth Brown to 72s. 6d.

Locomotive builders and engineers have been firm with Beyer Peacock at 22s. 3d., North British Locomotive 16s. 9d., Vulcan Foundry 19s. 3d., Wagon Repairs 16s. 3d., while Gloucester Wagon rose to 56s. 9d. Hurst Nelson were 56s. 6d.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1948/49	No. of week	Aggregate traffics to date: Total 1949/50	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta	811	30.7.50	75,510 —	3,440	30	1,818,674 —	182,600
	Costa Rica	281	May, 1950	c1,034,427 —	c46,785	48	c9,483,848 —	c1,726,592
	Dorada	70	June, 1950	23,781 +	2,219	26	231,172 +	60,567
	Inter. Ctl. Amer.	794	June, 1950	$1,116,431 —	$25,456	26	$7,031,230 +	$440,715
	La Guaira	22¾	July, 1950	$79,716 —	$20,386	30	$583,033 —	$168,584
	Nitrate	382	31.7.50	20,099 +	14,869	30	275,520 +	14,869
	Paraguay Cent.	274	28.7.50	£174,095 +	£38,542	4	£771,092 +	£194,303
	Peru Corp.	1,050	June, 1950	$6,883,000 +	$2,164,878	52	$71,217,058 +	$20,580,508
	(Bolivian Section)	66	June, 1950	Bs. 4,067,000 —	Bs. 3,531,834	52	Bs. 110,749,664 +	Bs. 7,004,480
	Salvador	100	Apr., 1950	c148,000 —	c34,000	43	c1,624,000 —	c166,000
	Taltal	154	June, 1950	19,090 +	7,235	52	173,510 +	61,900
Canada	Canadian National†	23,473	June, 1950	15,923,000 +	2,393,000	26	85,318,000 +	6,393,000
	Canadian Pacific†	17,037	June, 1950	10,774,000 +	1,085,000	26	59,102,000 +	690,000
Various	Barsi Light*	167	June, 1950	30,675 +	6,502	13	90,937 —	2,242
	Egyptian Delta	607	30.6.50	13,840 —	2,667	13	151,431 —	17,513
	Gold Coast	536	June, 1950	253,988 +	2,962	13	738,850 +	33,073
	Mid. of W. Australia	277	May, 1950	36,409 +	5,286	48	345,258 +	23,758
	Nigeria	1,900	Jan., 1950	502,360 +	38,978	44	5,017,814 +	266,573
	South Africa	13,347	8.7.50	1,696,953 +	179,579	16	22,488,594 +	1,761,334
	Victoria	4,744	Apr., 1950	1,721,471 +	276,573	44	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at $3 to £1